

KANSAS BUILDING FIRE SAFETY HANDBOOK



September, 2013

Office of the State Fire Marshal

700 SW Jackson Suite 600

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KANSAS FIRE PREVENTION CODE

Office of the State Fire Marshal is responsible for ensuring the safety of Kansas from the dangers of fire and explosion. The Fire Prevention Division does this through setting requirements for new and existing buildings throughout the state, by enforcing the requirements through inspections, and through reviewing plans, code footprints, sprinkler and fire alarm documentation before new construction begins.

The Kansas Fire Prevention Code combines many different documents including state statutes, regulations, OSFM interpretations and rules, nationally developed codes adopted through statute or regulation, and handbooks or other interpretive guidelines authorized by the publishers of nationally developed codes. Kansas statutes and regulations supersede any requirement found in nationally developed codes. Before national codes or standards can become part of the Kansas Fire Prevention Code, they must first be adopted by reference through statute or regulation.

Local building and fire officials can enact more stringent requirements than those laid out in the Kansas Fire Prevention Code, but they do not have the authority to permit lesser life safety features than those required at the state level.

A list of pertinent statutes and regulations can be found at the OSFM website at <http://www.accesskansas.org/firemarshal>.

VIOLATIONS OF STATE LAW

Building owners and operators are responsible for maintaining the buildings in compliance with the Kansas Fire Prevention Code, regardless of whether or not they have been inspected by a fire official. Ignorance of state law will not protect the occupants; neither will it protect the building owners and operators.

Violations of the Kansas Fire Prevention Code may result in fines, misdemeanor criminal charges, loss of facility approval for licensure, and discontinued use of a facility.

THE KANSAS BUILDINGS FIRE SAFETY HANDBOOK

The Kansas Buildings Fire Safety Handbook (KBFSH) acts as a sort of safety net: it combines many basic tenets of fire protection and building safety and is the minimum acceptable level of fire safety in all buildings other than one- and two-family dwellings across Kansas. By state law, existing buildings do not have to be upgraded or retrofitted to meet the requirements of newly adopted codes.

The inspection checklists are set up using the ENDSS Protocol. ENDSS stands for Exiting, Notification, Detection, Separation, and Suppression and is a method of prioritizing safety features within a building. Using this protocol, exiting is considered the single most important feature to a building's safety, followed by notification, detection, and so on.

The KBFSH does not contain information for every type of facility. For example, the criteria for hospitals and nursing homes are not found in this handbook. This is because of a contractual agreement between these facilities and the federal government, which requires hospitals and nursing homes to abide by a much more stringent standard than that required by Kansas law.

THE ROLE OF THE OSFM INSPECTOR

During an inspection, the representative of the OSFM identifies dangerous or nonconforming conditions. Although OSFM representatives are trained and experienced in their duties, it is the responsibility of the facility to find the best solution to address deficiencies. Design professionals of all types are available to provide a wide range of options so that you, the facility representative, can be sure the solution is right and cost effective.

APARTMENT CHECKLIST

2006 IFC

Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature.

EXITS

A: TEMPORARY EGRESS:

- 1001.2 It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

B: DOOR SWING:

- 1008.2 Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons.

C: DOOR LOCKS REQUIRED KEY:

- 1008.1.8 Egress doors shall be operable from the egress side without the use of a key or special knowledge or effort.

See exceptions:

Access doors or gates in barrier walls and fences protecting pool, spas, and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener or integral combination lock.

D: TRAVEL DISTANCE:

- TBL 1019.2 In a Group R-2 occupancy the maximum travel distance to an exit is 50 feet. In all other Group R occupancies, the maximum is 75 feet.

E: CONTINUOUS EXITS:

- 1019.3 Exits shall be continuous from the point of entry into the exit to the exit discharge.

F: EXTERIOR EXITS:

- 1018.2 Exterior exit doors shall lead directly to the exit discharge or the public way.

G: NORMAL ILLUMINATION:

- 1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

H-J: EXIT SIGNS:

- 1011.1, 1006.1 Exit signs are required in rooms or areas which require two or more exits. Main exterior exit door sign may be exempt. Exit signs are not required in individual sleeping units or dwelling units in Group R-1, R-2 or R-3. Exit sign placement shall be such that no point in an exit access corridor is more than 100 feet or the listed viewing distance, whichever is less, from the nearest visible exit sign. Exit signs shall be internally or externally illuminated at all times.

K: EXIT OBSTRUCTIONS:

1003.6 Obstruction to exits shall not be placed in the required width and exits shall not be obstructed in any manner.

L: MEANS OF EGRESS:

1003.6 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel.

M: EGRESS DOOR WIDTHS:

1008.1.1 Doorways shall not be less than 32 inches in clear width. This does not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.

N: NUMBER OF EXITS:

TBL-1015.1 Two exits or exit access doorways from any space in Group R shall be provided if the occupant load of the space exceeds 10 persons.

O: ACCESS CONTROL DOOR LOCKS:

Table-1008.1.3.4 Access-controlled entrance egress doors are permitted within Group R 1 and R-2 occupancies. The system must be approved. The doors shall be arranged to unlock by a signal from or loss of power to the motion sensor. There shall be a manual unlocking device (button) located 40-48 inches above the floor and within 5 feet of the secured doors with a sign that reads: "**PUSH TO EXIT.**" Activation of the fire alarm system or the automatic sprinklers shall unlock the doors.

P: SLEEPING UNITS (10 or Less):

1008.1.8.3 Egress doors shall be readily operable from the egress side without the use of a key or special knowledge or effort. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are operable from the inside without the use key or tool.

Q: EMERGENCY LIGHTING:

1027.5 In the event of power supply failure, exit illumination shall be automatically provided from an emergency system except where the guestroom or living unit has direct access to the outside at grade level. Applicable to Group R-1, R-2, and R-4 occupancies only. Group R-3 is exempt. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

FIRE PROTECTION SYSTEMS

A: SPRINKLER SYSTEM REQUIRED:

903.2.7 An automatic sprinkler system shall be provided throughout buildings with a Group R fire area.

B: F & L FIRE EXTINGUISHERS:

906.1 1x2A per 6000 sq. ft. in light hazard. 1x2A per 3000 sq. ft. in ordinary hazard. Max travel distance to a fire extinguisher is 75 ft. Fire extinguishers shall be mounted, conspicuously located, unobstructed, and available for immediate use. If visual obstruction cannot be avoided, signs shall be provided. Height Requirements: <40lbs - Not more than 5ft >40lbs - Not more than 3.5ft and not less than 4in.

C: TRAVEL DISTANCE:

Table 906.3 (1) Maximum travel distance to a fire extinguisher is 75 feet.

D-H: FIRE EXTINGUISHERS:

906.5 Fire extinguishers shall be located in conspicuous locations where they will be readily accessible and immediately available for use. Portable fire extinguishers shall not be obstructed or obscured from view. In rooms or areas in which visual obstruction cannot be completely avoided, means shall be provided to indicate the location of extinguishers. Hand-held portable fire extinguishers, not housed in cabinets, shall be installed on hangers or brackets supplied. See Table 906.1 for additional required portable fire extinguishers. Fire extinguishers shall be serviced annually and shall have a current service tag attached. (NFPA 10).

I: SUPERVISED VALVES:

903.4 All valves controlling the water supply and water-flow switches on all sprinkler systems shall be electronically supervised when system has 20 or more sprinkler heads.

J: PAINTED SPRINKLER HEADS:

901.8 Painted sprinkler heads or cover plates are prohibited unless painted at the factory. They cannot be cleaned of paint. They must be replaced. (NFPA 13, 6.2.6.2.1)

K: KITCHEN FIRE EXTINGUISHER (R1 HOTEL/MOTELS):

904.11 Group R-1 hotel kitchens must provide extinguishers and protection same as Group A-1 for commercial cooking areas.

L: FIRE EXTINGUISHERS:

906.9 Portable fire extinguishers having a gross weight not exceeding 40 pounds shall be installed so that its top is not more than 5 feet above the floor. Extinguishers having a gross weight exceeding 40 pounds shall be installed so that its top is not more than 3.5 feet above the floor and the bottom not less than 4 inches above the floor.

M: SYSTEM MAINTAINED:

901.6

Table 901.6.1

Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed. Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years. Fire protection systems shall be inspected, tested and maintained in accordance with the following; Portable fire extinguishers NFPA 10 Dry-chemical extinguishing systems NFPA 17, Wet-chemical extinguishing systems NFPA 17A, Water-based fire protection systems NFPA 25, Fire alarm systems NFPA 72, Commercial Cooking Equipment: NFPA 96, Emergency Standby Power: NFPA 110 & 111.

N: FIRE HYDRANTS:

508.2

A 3-foot clear space shall be maintained around the circumference of fire hydrants.

O: SMOKE ALARMS REQUIRED:

907.3.2.1

Single- and multiple-station smoke alarms shall be installed in existing Group R occupancies.

P-S: FIRE ALARM SYSTEM REQUIRED:

907.3

A fire alarm system shall be installed in existing Group R hotels and motels more than three stories or with more than 20 guestrooms. A fire alarm system shall be installed in existing Group R-1 boarding and rooming houses. A fire alarm system shall be installed in existing Group R-2 apartment buildings with more than three stories or with more than 16 dwelling or sleeping units. See exceptions.

T: COMMERCIAL COOKING EQUIPMENT:

904.11.5

Commercial cooking equipment involving vegetable oil or animal fat shall be protected by a Class K rated portable fire extinguisher provided within a 30-foot travel distance of commercial-type cooking equipment. Minimum 2.5-gallon or two 1.5-gallon Class K wet-chemical portable fire extinguisher.

U: CLASS K- FIRE EXTINGUISHERS:

904.11.5.2

When cooking areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided. 1-4 fryers require one 1.5-gallon Class K and 5-8 fryers require two 1.5-gallon Class K portable fire extinguishers.

V: MAINTENANCE RESPONSIBILITY:

907.20.5

The building owner shall be responsible for ensuring that the fire and life safety system are maintained in an operational condition at all times.

W: FIRE WATCH:

901.7

Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

X: GENERATOR MAINTENANCE:

604.3, 604.5

Emergency and standby power systems shall be maintained in accordance with NFPA 110 and NFPA 111 such that the system is capable of supplying service within the time specified for the type and duration required. Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.

Y: COOKING EQUIPMENT MAINTAINED:

904.11,
2008 (96) 11.2.4, 11.6.1

Automatic extinguishing systems of commercial cooking equipment shall be serviced at least every 6 months by properly trained, qualified, and certified person (s). Fusible links and automatic sprinkler heads with fusible links shall be replaced at least annually. Maintain records and show proof upon inspection, if the exhaust system is found to be contaminated with deposits from grease-laden vapors, the contaminated portions of the exhaust system shall be cleaned by a properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction.

HOUSEKEEPING

A-E: COMBUSTIBLE MATERIAL STORAGE:

315.2 Storage of combustible materials in buildings shall be maintained in a neat, orderly manner. Storage shall be separated from heaters or heating devices by distance or shielding so that ignition cannot occur. Combustible material shall not be stored in exits or exit enclosures. Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms.

H: UNVENTED HEATING:

603.4 Portable unvented fuel-fired heating equipment shall be prohibited in Group R-1, R-2, R-3, and R-4 occupancies.

EXCEPTION: Listed and approved unvented fuel-fired heaters in one and two family dwellings.

I: OILY RAGS:

304.1 Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in listed disposal containers (self-closing lids). Contents shall be removed and disposed of daily.

K: COOKING EQUIPMENT CLEANED:

904.11.6.3 Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

L: FIRE DEPT CONNECTION:

508.5.4 Items shall not be placed or kept near fire hydrants, fire department inlet connections (FDC) in a manner that would prevent such equipment or fire hydrants from being immediately discernible and from gaining immediate access to the fire protection equipment or fire hydrants.

M: HAZARDOUS SPACES:

Table-508.2 Incidental use areas shall be separated or protected, or both, in accordance with Table 508.2.-1 hour or assembly Furnace room single piece >400,000 BTU Boiler room Refrigerant machinery rooms Lab and vocational shops, in Group E Laundry rooms over 100 sq. ft. Storage rooms over 100 sq. ft. 2 hours; or 1 hour & assembly Parking garage (Section 406.2) Paint shops 2 hours & assembly Incinerator room.

ELECTRICAL

A-C: POWER STRIPS:

- 605.4 Re-locatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Re-locatable power taps shall be directly connected to a permanently installed receptacle. Re-locatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

D-J: EXTENSION CORDS:

- 605.5 Extension cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, or extended through walls, ceilings or floors. Extension cords shall be plugged directly into an approved receptacle, power tap, or multiplex adapter. Except for approved multi-plug extension cords, each extension cord shall serve only one portable appliance. Extension cords shall not contain splices or damage. Extension cords shall be grounded when serving grounded portable appliances. The capacity of the extension cords shall not be less than the rated capacity of the portable appliance supplied by the cord.

K: PANEL:

- 605.3 A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

L: JUNCTION BOX:

- 605.5 Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

M: ELECTRICAL MOTORS:

- 605.8 Electrical motors shall be maintained free from excessive accumulations of oil, dirt, waste and debris.

N-O: TEMPORARY WIRING:

- 605.9 Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days.
- Exception: Longer for construction, remodeling, repair or demolition of buildings. Temporary wiring attached to a structure shall be attached in an approved manner.

P: MULTIPLUG ADAPTERS:

- 605.4 Multi-plug adapters, such as cube adapters, un-fused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

MISCELLANEOUS

F-J: EVACUATION PLAN:

404.2, 405.2

An approved fire safety and evacuation plan shall be prepared and maintained for Group R-1 buildings and Group R-2 college and university buildings. Employees in Group R-1 occupancies shall be trained in the fire emergency procedures described in the fire evacuation and fire safety plans. Training is annual. Emergency evacuation drills shall be held in Group R-1 occupancies quarterly on each shift by employees only. In Group R-1 occupancies, a diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each hotel, motel or dormitory sleeping unit.

K: EMERGENCY GUIDE (R2-APARTMENT/DORM):

408.9

In Group R-2 occupancies, each tenant shall be given a copy of the emergency guide prior to occupancy.

L: SYSTEM MAINTENANCE:

907.20.5

The building owner shall be responsible for ensuring that the fire and life safety system are maintained in an operational condition at all times.

M: EVACUATION:

408.9

In Group R-4 occupancies, a fire safety and evacuation plan shall include special staff actions, including fire protection procedures for residents and shall be amended or revised upon admission of a resident with unusual needs.

HAZARDOUS MATERIALS

B-C: HAZARDOUS MATERIAL STORAGE:

2703.9.8, 3404.3.3.5.3 Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. of 0.5 gallon. Shelf storage of flammable and combustible liquids shall be orderly.

D: CABINET IDENTIFICATION:

27083.8.7.2 Hazardous materials storage cabinets shall be clearly identified in an approved manner with red letters on a contrasting background to read: "**HAZARDOUS--KEEP FIRE AWAY.**"

E: FLAMMABLE LIQUID/GAS STORAGE:

3404.3.4.4 Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet.

F: BELOW GRADE LPG STORAGE:

3803.2.1.1 Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gas might collect.

H: HAZARDOUS MATERIAL STORAGE:

3503.1 Except for cylinders not exceeding 250 cu. ft. each, used for maintenance purposes, patient care or operation of equipment, flammable gases shall not be stored or used in Group R occupancies.

FIRE PROTECTION

L: VERTICAL SHAFTS:

IFC 704.1, T 704.1

Interior vertical shafts, including but not limited to stairways, elevator hoist ways, service and utility shafts that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1. Group I Vertical openings connecting two or more stories 1-hour protection all, other than Group I Vertical openings are connecting three to five stories 1-hour protection or automatic sprinklers throughout all, other than Group I Vertical openings connecting more than five stories 1-hour protection.

A-E: RATED DOORS MAINTAINED:

703.2, 703.4

Fire doors and smoke barrier doors shall not be blocked or obstructed or otherwise made inoperable. Fire door assemblies shall not be modified. Swinging fire doors shall close from the full open position and latch automatically. The door closer shall exert enough force to close and latch the door from any partially open position. Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to confirm proper operation and full closure. A written record shall be maintained and be available. When magnetic hold-open devices on fire doors are out of service the door shall remain in the closed position.

F-H DECORATIONS:

806.1, 807.1

Natural cut trees shall be prohibited in Group M occupancies unless protected by automatic sprinkler system. Natural cut trees shall be prohibited in Group R-1 and R-2 occupancies unless protected by an automatic sprinkler system. Curtains, draperies, hangings and other decorative materials shall be flame resistant or be noncombustible in Group R-1 and dormitories in Group R-2. Ask to see certificate of treatment.

I: FIRE DOORS FUSIBLE LINKS:

703.2

Fire door fusible links shall be replaced promptly whenever fused or damaged.

J: FIRE-RESISTANCE- RATED CONSTRUCTION:

703.1

The required fire-resistance rating of fire-resistance-rated construction (including walls, fire stops, shaft enclosures, partition smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

K: INTERIOR FINISH:

803.1, 803.5, T 803.3

Interior wall and ceiling finish shall have a flame spread index not greater than that specified for the group and location designated. Sprinklered- Class C: Exits passageways, corridors, and enclosed rooms & spaces, Non-sprinklered-Class B: Exits passageways & corridors, Class C: Enclosed rooms & spaces.

KANSAS STATUTES AND REGULATIONS

KS01: FIRE PROTECTION CHANGES:

KSA- 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

EXCEPTION: Regents schools and Washburn University in Topeka.

KS02: EMERGENCY PROCEDURES:

K.A.R. 22-18-2(c) Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS03: BUILDING STRUCTUAL SOUNDNESS:

K.S.A. 31-133(a) If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

KS04: EXTERIOR STAIR SUPPORTS:

K.S.A. 31-133(a) Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS05: BELOW GRADE LP INSTALLATION:

K.S.A. 31-133(a) Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system be pressure tested and documented by authorized LP gas dealer or marketer.

KS06: BOILER CERTIFICATE:

K.S.A. 44-924(b) A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS07: SYSTEM SERVICE:

K.A.R. 22-10 Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS08: PTR/VALVE:

K.S.A. 44-924(b) Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS09: LOOSE COMBUSTIBLE STORAGE:

K.S.A. 31-133 Loose combustible storage is prohibited in boiler and furnace rooms and exit ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

KS10: COMPRESSED GAS CYLINDERS:

K.S.A. 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS11: GAS POWERED EQUIPMENT:

K.S.A. 31-133 Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS12: FLAMMABLE LIQUID STORAGE:

K.S.A. 31-133 Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS13: DANGEROUS CONDITIONS:

K.S.A. 31-133 Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS14: FIRE DRILL FREQUENCY (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS15: FIRE DRILL & DISABILITY (GROUP E):

K.A.R. 22-18-2(a) Fire drill procedures for occupants with disabilities shall in a written format and shall be maintained.

KS16: FIRE DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be documented on a record provided by OSFM and publicly posted.

INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD.

KS17: TORNADO DRILL ALARM (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm.

KS18: TORNADO REFUGE AREA (GROUP E):

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS19: TORNADO DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS20: ESCAPE WINDOW (GROUP E):

K.S.A. 31-150 Mobile classrooms require a remote, complying escape window or second exit door.

EXCEPTION: When each classroom has a door directly to the exterior.

KS21: BUSBARN (GROUP E):

K.S.A. 31-144(c) Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing. (For auto-shop classrooms, see hazardous rooms.)

KS22: JUVENILE DETENTION FIRE DRILL (GROUP I):

K.A.R. 22-15-7(q) Quarterly fire drills for staff training are required and must be documented.

KS23: JUVENILE DETENTION CONSTRUCTION (GROUP I):

K.A.R. 22-15-7(b)
K.S.A. 31-136
(equivalent construction types) Approved construction shall be one of the following for single story buildings: 1) One hour non-combustible, or 2) When previously approved and documented in writing by the OSFM a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or b) heavy timber construction and fully sprinkled.

KS24: ROLLING FIRE DOORS:

K.S.A. 31-133, 06 If a fire-rated door is not required at a location, the rolling door should be secured or removed. If a fire-rated door is required, the rolling door should be secured in place or removed completely, and then replaced with properly rated swinging doors. If the overhead doors cannot be immediately eliminated, the rolling doors shall be checked to insure they are being maintained properly and plans should be made to replace the doors.

ASSEMBLY

IFC 2006

Assembly occupancy includes, among others, the use of a building or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption; or awaiting transportation.

EXITS

A-C: NUMBER OF EXITS:

Table 1019.1 Minimum of four exits required for more than 1000 occupant load. Minimum of three exits required for 501-1000 occupant load. Minimum of two exits required for 1-500 occupant load. Buildings with only one exit and under 50 occupants are allowed in some occupancy.

D: DOOR SWING:

1008.1.2 Doors shall swing in direction of egress travel where serving an occupant load of 50 or more.

E-F: EGRESS DOORS:

1008.1 Exit doors shall be openable from the egress side without the use of a key or special knowledge or effort. Each door in a means of egress having an occupant load of 50 or more shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware. With an occupant load under 300, and in churches, the main exterior door is permitted to have a key lock on the egress side provided a sign stating "This door to remain unlocked when building is occupied" is posted adjacent to the door. The locking device must be readily distinguishable as locked.

G: NORMAL ILLUMINATION:

1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

H-J: EXIT SIGNS:

1011.1 Exit signs required where more than one exit is required. Exit sign placement shall be such that no point in a corridor is more than 100 feet from the nearest visible exit sign. Main exterior exit doors or gates which obviously and clearly are identifiable as an exit need not have exit signs.

K: EXIT OBSTRUCTIONS:

1003.6 Obstruction to exits shall not be placed in the required width and exits shall not be obstructed in any manner.

L-N: EGRESS WIDTH:

1003.6, 1008.1.1, 1021.2 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel. Doorways shall not be less than 32 inches in clear width. The width of exit passageways shall not be less than 44 inches except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches in width.

O: PANIC HARDWARE OPERATIONS:

1008.1 Where panic hardware is installed it shall unlatch with a maximum of 15 lbs. force applied to the panic bar. The door shall be set in motion when subjected to a 30-pound force applied to the latch side of the door.

P: TEMPORARY EGRESS:

- 1001.2 It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

Q: EGRESS WIDTH AISLES:

- 1025.9.1 Minimum clear width shall be 42 inches for level or ramped aisles having seating on both sides, 36 inches where aisle does not serve more than 50 seats or when aisle seating is on one side only.

R: FLUSH & SURFACE BOLTS:

- 1008.1.8.4 Manually operated flush bolts or surface bolts on exit doors are not permitted.

S-T: EMERGENCY LIGHTS:

- 1006.3. In the event of a power supply failure, an emergency system shall automatically illuminate all aisles and unenclosed egress stairways, corridors, exit enclosures, exit passageways, and exterior landings where two exits are required. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

U: ACCESS-CONTROL LOCKS:

- 1008.1.3.4 Access-controlled entrance egress doors are permitted. The system must be approved. The doors shall be arranged to unlock by a signal from or loss of power to the motion sensor. There should be a manual unlocking device (button) located 40-48 inches above the floor within 5 feet of the secured doors with a sign that reads "PUSH TO EXIT." Activation of the fire alarm system or the automatic sprinklers shall unlock the doors. Entrance doors shall not be secured from the egress side during periods that the building is open to the general public.

V: MEANS OF EGRESS THROUGH HAZARD:

- 1014.2. #2 Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

FIRE PROTECTION SYSTEMS

A-G: FIRE EXTINGUISHER:

- 906.1 1x2A per 6000 sq. ft. in light hazard. 1x2A per 3000 sq. ft. in ordinary hazard. Group A with quick-response sprinklers, fire extinguishers required only in special-hazard areas. Max travel distance to a fire extinguisher is 75 ft. Fire extinguishers shall be mounted, conspicuously located, unobstructed, and available for immediate use. If visual obstruction cannot be avoided, signs shall be provided. Height Requirements: <40lbs - Not more than 5ft>40lbs - Not more than 3.5ft and not less than 4in.

H: FIRE HYDRANTS:

- 508.5.5 A 3-foot clear space shall be maintained around the circumference of fire hydrants.

I: CLASS K EXTINGUISHER:

- 904.11.5 Commercial cooking equipment involving vegetable oil or animal fat shall be protected by a Class K rated portable fire extinguisher provided within 30 feet travel distance of commercial cooking equipment. When hazard areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided. 1-4 fryers require one 1.5-gallon and 5-8 fryers require two 1.5-gallon Class K portable fire extinguishers.

J-K: MANUAL ACTIVATION DEVICE:

- 904.11.1-2 Automatic shutoff of fuel/power shall occur upon activation of system. Reset shall be manual. A manual activation device shall be located at or near a means of egress from the cooking area, 42-48 in. above the floor, and 10-20 ft. away from the kitchen exhaust system.

L: COMMERCIAL COOKING TESTING & MAINTENANCE:

- IFC - 904.11.
08-96
11.2.1, 11.2.4 & 11.6.1 Automatic extinguishing systems of commercial cooking equipment shall be serviced at least every 6 months by properly trained, qualified, and certified person (s). Fusible links and automatic sprinkler heads with fusible links shall be replaced at least annually. Maintain records and show proof. Upon inspection, if the exhaust system is found to be contaminated with deposits from grease-laden vapors, the contaminated portions of the exhaust system shall be cleaned by a properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction.

M: FIRE EXTINGUISHER SERVICE:

- 901.6 Fire extinguishers shall be serviced annually and shall have a current service tag attached. (NFPA 10)

N: SUPERVISED VALVES:

- 903.4 All valves controlling the water supply shall be electronically supervised when the system has 20 or more sprinkler heads.

O-P: SYSTEMS MAINTAINED:

- 901.6, T 901.6.1 Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed. Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years. Fire protection systems shall be inspected, tested and maintained in accordance with the following. Portable fire extinguishers, NFPA 10, Dry-chemical extinguishing systems NFPA 17, Wet-chemical extinguishing systems NFPA 17A, Water-based fire protection systems NFPA 25, Fire alarm systems NFPA 72, Commercial Cooking Equipment: NFPA 96, Emergency Standby Power: NFPA 110 & 111

Q: PAINTED SPRINKLER HEADS:

- 901.6 Painted sprinkler heads or cover plates are prohibited unless painted at the factory. They cannot be cleaned of paint. They must be replaced. (NFPA 13, 6.2.6.2.1)

S: MAINTENANCE RESPONSIBILITY:

- 907.20.5 The building owner shall be responsible for ensuring that the fire and life safety systems are maintained in an operable condition at all times.

T: FIRE ALARM SYSTEM REQUIRED:

- 907.2.1 A manual fire alarm system is required in Group A occupancies having an occupant load of 300 or more. Portions of Group E occupancies occupied for assembly purposes shall have a fire alarm system as required for the Group E occupancy.

EXCEPTION: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the alarm notification appliances will activate upon sprinkler water flow.

U: FIRE WATCH:

- 901.7 Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

V: GENERATOR MAINTENANCE:

- 604.3, 604.5 Emergency and standby power systems shall be maintained in accordance with NFPA 110 and NFPA 111 such that the system is capable of supplying service within the time specified for the type and duration required. Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.

HOUSKEEPING

A-G: COMBUSTIBLE STORAGE:

315.2, 315.3

Combustible materials shall not be stored in exits or exit enclosures. Storage shall be orderly. Storage shall be separated from heaters or heating devices. Combustible materials shall not be stored in boiler room, mechanical rooms or electrical equipment rooms. Storage shall be 24in. below the ceiling in non-sprinklered bldgs. or 18 inches below sprinkler deflectors in sprinklered bldgs. Concealed spaces used for storage shall be protected on the storage side as required for 1-hour rated construction.

EXCEPTION: Area protected by automatic sprinkler system. Outside storage of combustible materials shall not be located within 10 feet of a property line.

J: OILY RAGS:

304.3.1

Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container (self-closing lids). Contents of such containers shall be removed and disposed of daily.

K: INDOOR VEHICLE DISPLAYS:

314.4

Liquid- or gas-fueled vehicles or boats on display shall not be located indoors except: battery disconnected, fuel in tank not to exceed 1/4 tank or 5 gallons (whichever is least). Fuel tanks and fill openings are closed and sealed to prevent tampering.

L: UNVENTED HEATERS:

603.4

Portable unvented fuel-fired heating equipment shall be prohibited.

M: GREASE LADEN VAPORS & HOOD REQUIREMENT:

609.2

A Type 1 hood shall be installed at or above all commercial food cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

N: COOKING EQUIPMENT CLEANED:

904.11

Hoods, grease-removal devices, fans, ducts, and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

P: HAZARDOUS SPACES:

TBL 508.2

Incidental use areas shall be separated or protected, or both, in accordance with Table 508.2. 1 hour or assembly Furnace room single piece >400,000 BTU Boiler room Refrigerant machinery rooms Lab and vocational shops, in Group E Laundry rooms over 100 sq. ft. Storage rooms over 100 sq. ft. 2 hours; or 1 hour & assembly Parking garage (Section 406.2) Paint shops 2 hours & assembly Incinerator rooms

ELECTRICAL

A-C: POWER STRIPS:

- 605.4 Re-locatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Re-locatable power taps shall be directly connected to a permanently installed receptacle. Re-locatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

D-J: EXTENTION CORDS:

- 605.5 Extension cords shall not be a substitute for permanent wiring and shall not be affixed to structures, extended through walls, ceilings or floors. Cords shall not contain splices or damage. Extension cords shall only be plugged directly into an approved receptacle. Except for approved multi-plug extension cords, each extension cord shall serve only one appliance. The capacity of the extension cord shall not be exceeded. Extension cords shall be grounded when serving grounded portable appliances.

K: PANEL:

- 605.3 A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

L: JUNCTION BOX:

- 605.6 Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

M: ELECTRICAL MOTORS:

- 605.8 Electrical motors shall be maintained free from excessive accumulations of oil, dirt, waste and debris.

N-O: TEMPORARY WIRING:

- 605.9 Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Temporary wiring attached to a structure shall be attached in an approved manner.

P: MULTIPLUG ADAPTERS:

- 605.4 Multi-plug adapters, such as cube adapters, un-fused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

MISCELLANEOUS

E: OCCUPANT LOAD POSTED:

- 100.4.3 Every room or space that is assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place and maintained by the owner.

H-J: EVACUATION PLAN & DRILLS:

- 404.2, 405.2 An approved fire safety and evacuation plan shall be prepared and maintained. Exception: Churches less than 2000 occupant load. Emergency evacuation drills shall be conducted in Group A occupancies quarterly by all employees. Written plan and drill records must be maintained and available upon request.

HAZARDOUS MATERIALS

B-C: HAZARDOUS MATERIALS STORAGE:

2703.9.8, 3404.3.3.5.3 Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. or 0.5 gallon. Shelf storage of flammable and combustible liquids shall be orderly.

D: BELOW GRADE LPG GAS STORAGE:

3803.2.1.1 Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gas might collect.

E-F: FLAMMABLE LIQUID AND GAS STORAGE:

3404.3.4.4, 3503.1.1 Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet. Except for cylinders not exceeding 250 cubic feet each, used for maintenance purposes, patient care or operation of equipment, flammable gases shall not be stored or used in Group A occupancies.

FIRE PROTECTION

L: VERTICAL SHAFTS:

704.1, T 704.1

Interior vertical shafts, including but not limited to stairways, elevator hoist ways, service and utility shafts that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1.

Group I Vertical openings connecting two or more stories 1-hour protection
All, other than Group I Vertical openings connecting three to five stories 1-hour protection or automatic sprinklers throughout

All, other than Group I Vertical openings connecting more than five stories 1-hour protection

A-E: RATED DOOR MAINTAINED:

703.2

Fire doors and smoke barrier doors shall not be modified, blocked or obstructed or made inoperable. Swinging fire doors shall close and latch automatically. Horizontal and vertical sliding doors shall be inspected and tested annually. A written record shall be maintained and be available. Magnetic hold-open devices and automatic door closers on fire doors, where provided, shall be maintained. If fire doors are out of service the door shall remain in the closed position.

F-G: DECORATIONS:

807.1, 806.1.1

Curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall be flame-resistant. Natural cut trees shall be prohibited in Group A occupancies unless protected by self-closing or automatic-closing doors.

H: SELF OR AUTOMATIC CLOSING DOORS:

703.1

Openings through fire-resistance-rated assemblies shall be protected by self-closing or automatic-closing doors.

I: RATED DOORS BLOCKED OR WEDGED:

TBL 1017.1, 703.1

Fire doors and smoke barrier doors shall not be blocked. No door wedges or fold-down feet in rated corridors.

J: FIRE RESISTANCE RATED CONSTRUCTION:

703.1

The required fire-resistance rating of fire-resistance-rated construction (including walls, fire stops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

K: INTERIOR FINISH:

803.1, 803.5, T803.3

Interior wall and ceiling finish shall have a flame spread index not greater than that specified for the group and location designated. Sprinklered Class B: Exits passageways & corridors, Class C: Enclosed rooms & spaces Non-sprinklered, Class A: Exits passageways & corridors, Class B: Enclosed rooms & spaces.

KANSAS STATUTES & REGULATIONS

KS01: FIRE PROTECTION CHANGES:

KSA- 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

KS02: EMERGENCY PROCERDURES:

K.A.R. 22-18-2(c) Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS03: BUILDING STRUCTUAL SOUNDNESS:

K.S.A. 31-133(a) If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

KS04: EXTERIOR STAIR SUPPORTS:

K.S.A. 31-133(a) Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS05: BELOW GRADE LP INSTALLATION:

K.S.A. 31-133(a) Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system is pressure tested and documented by authorized LP gas dealer or marketer.

KS06: BOILER CERTIFICATE:

K.S.A. 44-924(b) A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS07: SYSTEM SERVICE:

K.A.R. 22-10 Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS08: PTR/VALVE RELIEF:

K.S.A. 44-924(b) Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS09: LOOSE COMBUSTIBLE STORAGE:

K.S.A. 31-133 Loose combustible storage is prohibited in boiler and furnace rooms and exit ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

KS10: COMPRESSED GAS CYLINDER:

K.S.A. 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS11: GAS POWERED EQUIPMENT:

K.S.A. 31-133 Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS12: FLAMMABLE LIQUID STORAGE:

K.S.A. 31-133 Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS13: DANGEROUS CONDITIONS:

K.S.A. 31-133 Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS14: FIRE DRILL FREQUENCY (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS15: FIRE DRILL & DISABILITY (GROUP E):

K.A.R. 22-18-2(a) Fire drill procedures for occupants with disabilities shall exist in a written format and shall be maintained.

KS16: FIRE DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be documented on a record provided by OSFM and publicly posted.

INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD.

KS17: TORNADO DRILL ALARM (GROUP E:)

K.A.R. 22-18-2(c) Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm.

KS18: TORNADO REFUGE AREA (GROUP E):

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS19: TORNADO DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS20: ESCAPE WINDOW (GROUP E):

K.S.A. 31-150 Mobile classrooms require a remote, complying escape window or second exit door.

EXCEPTION: When each classroom has a door directly to the exterior.

KS21: BUSBARN (GROUP E):

K.S.A. 31-144(c) Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing. (For auto-shop classrooms, see hazardous rooms.)

KS22: JUVENILE DETENTION FIRE DRILL (GROUP I):

K.A.R. 22-15-7(q) Quarterly fire drills for staff training are required and must be documented.

KS23: JUVENILE DETENTION CONSTRUCTION (GROUP I):

K.A.R. 22-15-7(b) K.S.A. 31-136
(Equivalent construction types) Approved construction shall be one of the following for single story buildings: 1) one hour non-combustible, or 2) When previously approved and documented in writing by the OSFM a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or b) heavy timber construction and fully sprinkled.

KS24: ROLLING FIRE DOORS:

K.S.A 31-133, 06 If a fire-rated door is not required at a location, the rolling door should be secured or removed. If a fire-rated door is required, the rolling door should be secured in place or removed completely, and then replaced with properly rated swinging doors. If the overhead doors cannot be immediately eliminated, the rolling doors shall be checked to insure they are being maintained properly and plans should be made to replace the doors.

BUSINESS OCCUPANCY

Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to.

EXITS

A-B: NUMBER OF EXITS

1001.2, 1015.1 It shall be unlawful to alter a building in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code. Two exits or exit access doorways from any space shall be provided when the occupant load is 50 or more than the values in Table 1015.1.

C: TRAVEL DISTANCE

Tbl 1019.2 One-story buildings with one exit maximum travel distance is 75 feet to an exit.

D-E: MEANS OF EGRESS

1019.3, 1018.2.2 Exits shall be continuous from the point of entry into the exit to the exit discharge. Exterior exit doors shall lead directly to the exit discharge or the public way.

F: DOOR SWING

1008.1.2 Doors shall swing in direction of exit travel where serving an occupant load of 50 or more.

G: NORMAL ILLUMINATION

1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

H-J: EXIT SIGNS

1011.1 Exit signs are required in rooms or areas which require two or more exits. Main exterior exit door sign may be exempt. Exit sign placement shall be such that no point in a corridor is more than 100 feet or the listed viewing distance from the nearest visible exit sign. Exit signs shall be internally or externally illuminated at all times.

K: EXIT OBSTRUCTIONS

1003.6 Obstruction to exits shall not be placed in the required width and exits shall not be obstructed in any manner.

L-N: EGRESS WIDTH

1003.6, 1008.1.1, 1017.2 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel. Doorways shall not be less than 32 inches in clear width. The minimum corridor width shall be not less than 44 inches. When occupant capacity is less than 50, 36 inches is the minimum width.

O: PANIC HARDWARE OPERATION

- 1008.1.2 Where panic hardware is installed it shall unlatch with a maximum of 15 lbs. force applied to the panic bar. The door shall be set in motion when subjected to a 30-pound force applied to the latch side of the door.

P-Q: EGRESS DOOR LOCKS

- 1008.1.8 Manually operated flush bolts or surface bolts on exit doors are not permitted. Key locking hardware may be used on the main exit if there is a readily visible, durable sign on, or adjacent to, the door stating "This door to remain unlocked when building is occupied."

R: EMERGENCY LIGHTS

- 1006.2 In the event of a power supply failure, an emergency system shall automatically illuminate all aisles and unenclosed egress stairways, corridors, exit enclosures, exit passageways, and exterior landings where two exits are required. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

S-U: EGRESS DOOR LOCKS

- 1008.1.8.6 Approved listed, delayed egress locks shall be permitted to be installed on doors serving Group B Occupancies. Access-controlled entrance egress doors are permitted within Group B Occupancies. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort: See exceptions.

V: MEANS OF EGRESS:

- 1014.2 #2 Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

W: EGRESS WIDTH

- 1014.4.1 Aisles in Group B occupancies, the minimum clear aisle width shall not be less than 36 inches or more if the occupant load served requires a greater width.

X: EMERGENCY LIGHTS

- 1027.5 #2 Existing B occupancy buildings three or more stories in height, existing buildings with 100 or more occupants above or below the level of exit discharge, or existing buildings with 1000 or more total occupants require emergency egress illumination.

FIRE PROTECTION SYSTEMS

A-H: FIRE EXTINGUISHER:

Tbl 906.3 (1), 906.1, 906.5, 906.6, 906.7, 906.9

1x2A per 6000 sq. ft. in light hazard. 1x2A per 3000 sq. ft. in ordinary hazard. Group A with quick-response sprinklers, fire extinguishers required only in special-hazard areas. Max. travel distance to a fire extinguisher is 75 ft. Fire extinguishers shall be mounted, conspicuously located, unobstructed, and available for immediate use. If visual obstruction cannot be avoided, signs shall be provided.

Height Requirements:

<40lbs - Not more than 5ft

>40lbs - Not more than 3.5ft and not less than 4in

I: SPRINKLER SYSTEM

903.4

All valves controlling the water supply for automatic sprinkler systems and water-flow switches on all sprinkler systems shall be electronically supervised when system has 20 or more sprinkler heads.

J-K: SYSTEM MAINTENANCE

901.6, T901.6.1

Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection systems and equipment shall be inspected, tested and maintained or removed.

Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years.

Fire protection systems shall be inspected, tested and maintained in accordance with the following.

Portable fire extinguishers NFPA 10

Dry-chemical extinguishing systems NFPA 17

Wet-chemical extinguishing systems NFPA 17A

Water-based fire protection systems NFPA 25

Fire alarm systems NFPA 72

Commercial Cooking Equipment: NFPA 96

Emergency Standby Power: NFPA 110 & 111

L: FIRE HYDRANTS

508.5.5

A 3-foot clear space shall be maintained around the circumference of fire hydrants.

M: SPRINKLER SYSTEM

901.8

Painted sprinkler heads or cover plates are prohibited unless painted at the factory. They cannot be cleaned of paint. They must be replaced. (NFPA 13, 6.2.6.2.1)

N: SYSTEM MAINTENANCE

907.20.5

The building owner shall be responsible for ensuring that the fire and life safety systems are maintained in an operable condition.

HOUSEKEEPING

A-F: STORAGE

315.2 Storage of combustible materials in buildings shall be orderly. Storage shall be separated from heaters or heating devices. Storage shall be maintained 2 feet or more below the ceiling in nonsprinklered buildings or 18 in. below sprinkler deflectors in sprinklered areas of buildings. Combustible materials shall not be stored in exits, exit enclosures, boiler rooms, mechanical rooms or electrical equipment rooms.

Attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistive construction.

Exception if the area is protected by an approved automatic sprinkler system.

G: OILY RAGS

304.3.1 Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container (self-closing lid). Contents shall be removed and disposed of daily.

H: HOT WORK AREAS:

2604.1.3 Floors shall be kept clean in hot work areas.

I: STORAGE

315.3 Outside storage of combustible materials shall not be located within 10 feet of a property line.

J: COOKING EQUIPMENT CLEANED

904.11.6.3 Hoods, grease-removal devices, fans, ducts, and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

K-L: TRASH CONTAINERS

304.3 Combustible waste containers larger than 40 gallons shall have lids and must be made of noncombustible or approved combustible material. Dumpsters and containers with an individual capacity of 1.5 cubic yards (40.5 cu.ft) or more shall not be stored in buildings or placed within 5 feet of combustible walls, openings, or under roof eave lines. Allowed if automatic sprinklers throughout.

M: INDOOR VEHICLES

314.4 Liquid- or gas- fueled vehicles shall not be located indoors except: battery disconnected, fuel in tank not to exceed 1/4 or 5 gallons (whichever is least), fuel tanks and fill openings are closed and sealed to prevent tampering.

N: STORAGE

3404.3.3.5.3 Shelf storage of flammable and combustible liquids shall be maintained in an orderly manner.

O: FIRE HYDRANTS

508.5.4 Items shall not be placed or kept near fire hydrants, fire department inlet connections (FDC) in a manner that would prevent such equipment or fire hydrants from being immediately discernible and from gaining immediate access to the fire protection equipment or fire hydrants.

ELECTRICAL

A-C: POWER STRIPS

- 605.4 Relocatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Relocatable power taps shall be directly connected to a permanently installed receptacle. Relocatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

D-J: EXTENSION CORDS

- 605.5 Extension cords shall not be a substitute for permanent wiring and shall not be affixed to structures, extended through walls, ceilings or floors. Cords shall not contain splices or damage.
- Extension cords shall only be plugged directly into an approved receptacle. Except for approved multiplug extension cords, each extension cord shall serve only one appliance. The ampacity of the extension cord shall not be exceeded.
- Extension cords shall be grounded when serving grounded portable appliances.

K: PANEL

- 605.3 A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

L: JUNCTION BOX

- 605.6 Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

M: MULTIPLUG ADAPTERS

- 605.4 Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

N: TEMPORARY WIRING

- 605.9 Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Exception: Longer for construction, remodeling, repair or demolition of buildings.

O: ELECTRICAL ROOM

- 605.3.1 Doors into electrical control panel rooms shall be marked with a plainly visible and legible sign stating: "ELECTRICAL ROOM."

P: ELECTRICAL MOTORS

605.8 Electrical motors shall be maintained free from excessive accumulations of oil, dirt, waste and debris.

MISCELLANEOUS

A: BUILDING NUMBERS

- 505.1 New and existing buildings shall have approved address numbers plainly legible and visible from the street fronting the property. These numbers shall contrast with their background.

B: KEY BOX

- 506.1 A key box may be required where access to or within a structure is unduly difficult because of secured openings or where immediate access is required.

C-D: ACCESS ROADS

- 503.4, 503.2.1 Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles.
Fire apparatus access roads shall have an unobstructed width of not less than 20 feet; minimum height is 13 feet 6 inches.

E: EVACUATION PLAN

- 404.2 An approved Fire Safety and evacuation plan is required for high-rise buildings.

F: SYSTEM MAINTENANCE

- 907.20.5 The building owner shall be responsible for ensuring that the fire alarm systems are maintained in an operational condition at all times.

HAZARDOUS MATERIALS

A: PERMIT

105.6.16 #2 An operational permit is required to store, handle or use Class I liquids in excess of 5 gallons inside a building or 10 gallons outside.

B-C HAZARDOUS MATERIALS STORAGE

2703.9.8, 3404.3.3.5.3

Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. of 0.5 gallon. Shelf storage of flammable and combustible liquids shall be orderly.

D: LPG STORAGE

3803.2.1.1 Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gas might collect.

E-F: HAZARDOUS MATERIAL STORAGE

3404.3.4.4, 3503.1.1

Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet. Except for cylinders not exceeding 250 cubic feet each, used for maintenance purposes, patient care or operation of equipment, flammable gases shall not be stored or used in Group B occupancies.

G: COMPRESSED GAS

2703.5 Rooms or cabinets containing compressed gases shall be labeled: "COMPRESSED GAS."

H: HAZARDOUS MATERIALS PLACARD

2703.5 Buildings storing hazardous materials must display placard.

FIRE PROTECTION

A-F: RATED DOORS

703.2

Fire doors and smoke barrier doors shall not be modified, blocked or obstructed or made inoperable.

Swinging fire doors shall close and latch automatically. Horizontal and vertical sliding doors shall be inspected and tested annually. A written record shall be maintained and be available. Magnetic hold-open devices and automatic door closers on fire doors, where provided, shall be maintained. If fire doors are out of service the door shall remain in the closed position.

KANSAS STATUTES & REGULATIONS

KS01: FIRE PROTECTION CHANGES:

KSA- 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

KS02: EMERGENCY PROCEDURES:

K.A.R. 22-18-2(c) Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS03: BUILDING STRUCTURAL SOUNDNESS:

K.S.A. 31-133(a) If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, and a report shall be provided to OSFM for review and determination of appropriate action.

KS04: EXTERIOR STAIR SUPPORTS:

K.S.A. 31-133(a) Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS05: BELOW GRADE LP INSTALLATION:

K.S.A. 31-133(a) Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system is pressure tested and documented by authorized LP gas dealer or marketer.

KS06: BOILER CERTIFICATE:

K.S.A. 44-924(b) A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS07: SYSTEM SERVICE:

K.A.R. 22-10 Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS08: PTR/VALVE RELIEF:

K.S.A. 44-924(b) Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS09: LOOSE COMBUSTIBLE STORAGE:

K.S.A. 31-133 Loose combustible storage is prohibited in boiler and furnace rooms and exit ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

KS10: COMPRESSED GAS CYLINDER:

K.S.A. 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS11: GAS POWERED EQUIPMENT:

K.S.A. 31-133 Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS12: FLAMMABLE LIQUID STORAGE:

K.S.A. 31-133 Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS13: DANGEROUS CONDITIONS:

K.S.A. 31-133 Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS14: FIRE DRILL FREQUENCY (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS15: FIRE DRILL & DISABILITY (GROUP E):

K.A.R. 22-18-2(a) Fire drill procedures for occupants with disabilities shall exist in a written format and shall be maintained.

KS16: FIRE DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be documented on a record provided by OSFM and publicly posted.

INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD.

KS17: TORNADO DRILL ALARM (GROUP E :)

K.A.R. 22-18-2(c) Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm.

KS18: TORNADO REFUGE AREA (GROUP E):

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS19: TORNADO DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS20: ESCAPE WINDOW (GROUP E):

K.S.A. 31-150 Mobile classrooms require a remote, complying escape window or second exit door.

EXCEPTION: When each classroom has a door directly to the exterior.

KS21: BUSBARN (GROUP E):

K.S.A. 31-144(c) Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing. (For auto-shop classrooms, see hazardous rooms.)

KS22: JUVENILE DETENTION FIRE DRILL (GROUP I):

K.A.R. 22-15-7(q) Quarterly fire drills for staff training are required and must be documented.

KS23: JUVENILE DETENTION CONSTRUCTION (GROUP I):

K.A.R. 22-15-7(b) K.S.A. 31-136
(Equivalent construction types) Approved construction shall be one of the following for single story buildings: 1) one hour non-combustible, or 2) When previously approved and documented in writing by the OSFM a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or b) heavy timber construction and fully sprinkled.

KS24: ROLLING FIRE DOORS:

K.S.A 31-133, 06 If a fire-rated door is not required at a location, the rolling door should be secured or removed. If a fire-rated door is required, the rolling door should be secured in place or removed completely, and then replaced with properly rated swinging doors. If the overhead doors cannot be immediately eliminated, the rolling doors shall be checked to insure they are being maintained properly and plans should be made to replace the doors.

CHILD CARE

IFC 2006

Child care facility that provides supervision and personal care on less than a 24-hours basis for more than five children 2 ½ years of age or less.

Exception: a child day care facility that provides care for more than five but no more than 100, 2 ½ years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior can be classified as a Group E

EXITS

A: NUMBER OF EXITS:

1015.1 A minimum of two exits required if over 10 occupant load.

B: DOOR SWING:

1008.1.2 Egress doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons.

C: DOOR LOCKS REQUIRE KEY:

1008.1.8 Egress doors shall be openable from the egress side without the use of a key or special knowledge or effort. See exceptions.

EXCEPTIONS: Access doors or gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener or integral combination lock.

D: NORMAL ILLUMINATION:

1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

E-F: EXIT SIGNS ILLUMINATED:

1011.1, 1011.2 Exit signs shall be internally or externally illuminated. Exit signs are not required in sleeping room areas in occupancies in Group I-3.

G: EXIT OBSTRUCTION:

1003.6 Obstructions shall not be placed in the required width of a means of egress. Exits shall not be obstructed in any manner.

H-I: EGRESS DOOR WIDTH:

1003.6, 1008.1.1 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel. Doorways shall not be less than 32" in clear width.

J: PANIC HARDWARE OPERATION:

1008.1.9, 1008.1.2 Where panic hardware is installed it shall unlatch with a maximum of 15 lbs. force applied to the panic bar. The door shall be set in motion when subjected to a 30 lb. pound force applied to the latch side of the door.

K: REMOTE EXITS:

1015.2.1 When two exits are required from a room or space, they must be separated by 1/2 the diagonal of the room, or 1/3 the diagonal if sprinklered.

L: FLUSH OR SURFACE BOLTS:

1008.1.8.4 Manually operated flush bolts or surface bolts are not permitted.

EXCEPTION: 1) On doors not required for egress in individual dwelling units or sleeping units. 2) Where a pair of doors serves as a storage or equipment room, manually operated edge- or surface- mounted bolts are permitted on the inactive leaf.

M: EMERGENCY LIGHTING:

1006.3 In the event of a power supply failure, an emergency system shall automatically illuminate all aisles and unenclosed egress stairways, corridors, exit enclosures, exit passageways, and exterior landings where two exits are required. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

N-O: EXIT SIGNS REQUIRED:

1011.1, 1011.5.3 Exit signs are required in rooms or areas which require two or more exits. Exit signs shall be illuminated at all times.

P Q: EGRESS CORRIDOR WIDTH:

1017.2 The minimum corridor width shall be not less than 44 inches.

R: EXIT SIGN DISTANCE:

1011.1 Exit sign placement shall be such that no point in a corridor is more than 100 feet or the listed viewing distance, whichever is less, from the nearest visible exit sign.

S: EGRESS WIDTH (I3-JAIL/DETENTION):

1008.1.1 Door openings to resident sleeping rooms in occupancies in Group I-3 shall have a clear width of not less than 28 inches

T: RATED CORRIDORS:

Table 1017.1 I-4 must have a 1-hour rated corridor (Existing) or be fully sprinklered (New). I-3 are required to have a 1-hour rated corridor and be fully sprinklered.

U: DOOR LOCKS AND LATCHES (I3-JAIL/DETENTION):

1008.1.8.3 Locks and latches shall be permitted to prevent operation of doors where people are detained or restrained (Group I-3).

V: RESCUE WINDOW (EXISTING NON SPRINKLERED):

06-101/17.2.11.1.1 Every room or space greater than 250 ft² and normally subject to client occupancy shall have not less than one outside window for emergency rescue that complies with the following:(1) Such windows shall be openable from the inside without the use of tools and shall provide a clear opening of not less than 20 in. in width, 24 in. in height, and 5.7 ft² in area.(2) The bottom of the opening shall be not more than 44 in. above the floor.(3) The clear opening shall allow a rectangular solid, with a width and height that provides not less than the required 5.7 ft² opening and a depth of not less than 20 in. to pass fully through the opening.

EXCEPTION: Where the room or space has a door leading directly to the outside of the building.

FIRE PROTECTION SYSTEMS

A: SPRINKLER REQUIRED:

903.2.5 An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

B- G: FIRE EXTINGUISHER:

Table 906.3 (1) 1x2A per 6000 sq. ft. in light hazard. 1x2A per 3000 sq. ft. in ordinary hazard. Max travel distance to a fire extinguisher is 75 ft. fire extinguishers shall be mounted, conspicuously located, unobstructed, and available for immediate use. If visual obstruction cannot be avoided, signs shall be provided. Height Requirements: <40lbs - Not more than 5 ft. >40 lbs. - Not more than 3.5 ft. and not less than 4 in.

J&L: COOKING EQUIPMENT MAINTAINED:

08-96/11.2.1
11.2.4, 11.6.1 Automatic extinguishing systems of commercial cooking equipment shall be serviced at least every 6 months by properly trained, qualified, and certified person (s). Fusible links and automatic sprinkler heads with fusible links shall be replaced at least annually. Maintain records and show proof. Upon inspection, if the exhaust system is found to be contaminated with deposits from grease-laden vapors, the contaminated portions of the exhaust system shall be cleaned by a properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction.

K & M: MANUAL ACTIVATION DEVICE:

904.11.1, 904.11.2 The actuation of commercial cooking equipment fire suppression system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The automatic fire-extinguishing system for commercial cooking systems shall have a manual actuation device that shall be located at or near a means of egress from the cooking area, 42-48 inches above floor, 10 to 20 feet away.

N: TYPE I HOOD AND SUPPRESSION:

904.2.1 Commercial kitchen (Type I) exhaust hood and duct systems shall be protected by an approved automatic fire-extinguishing system.

O: FIRE EXTINGUISHER SERVICE:

901.6.1 Fire extinguishers shall be serviced annually and shall have a current service tag attached. (NFPA 10).

P: SUPERVISED VALVES:

903.4 All valves controlling the water supply and water-flow switches on all sprinkler systems shall be electronically supervised when system has 20 or more sprinkler heads.

R & T: SYSTEMS MAINTAINED:

901.6, T901.6.1 Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed. Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years. Fire protection systems shall be inspected, tested and maintained in accordance with the following. Portable fire extinguishers NFPA 10 Dry-chemical extinguishing systems NFPA 17 Wet-chemical extinguishing systems NFPA 17A

Water-based fire protection systems NFPA 25 Fire alarm systems NFPA 72
Commercial Cooking Equipment: NFPA 96 Emergency Standby Power: NFPA
110 & 111

S: PAINTED SPRINKLER HEADS:

901.6 Painted sprinkler heads or cover plates are prohibited unless painted at the factory. They cannot be cleaned of paint. They must be replaced.

U: COOKING EQUIPMENT CLEANED:

904.11.6.3 Hoods, grease-removal devices, fans, and ducts shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleaning shall be recorded, and records shall state the extent, time and date of cleaning.

V: FIRE HYDRANTS:

508.5.5 A 3-foot clear space shall be maintained around the circumference of fire hydrants.

X: CLASS K FIRE EXTINGUISHER:

904.11.5.2 When cooking includes deep fat fryers, listed Class K portable fire extinguishers shall be provided. 1-4 fryers require one 1.5-gallon Class K and 5-8 fryers require two 1.5-gallon Class K portable fire extinguishers.

Y: MAINTENANCE RESPONSIBILITY:

907.20.5 The building owner shall be responsible for ensuring that the fire and life safety systems are maintained in an operational condition at all times.

Z: FIRE ALARM SYSTEM REQUIRED:

907.3.1.2, 907.3.1.3, 907.3.1.4 Group I-1: A fire alarm system shall be installed. Exception: Where each sleeping room has an exit door directly to an exterior egress balcony that leads directly to the exits in accordance with Section 1014.5, and the building is not more than three stories in height. Group I-2: A fire alarm system shall be installed in accordance with Section 907.2.6.2. Group I-3: A fire alarm system shall be installed in accordance with Section 907.2.6.3.

ZA: FIRE WATCH:

901.7 Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

ZB: GENERATOR MAINTENANCE:

604.3, 604.5 Emergency and standby power systems shall be maintained in accordance with NFPA 110 and NFPA 111 such that the system is capable of supplying service within the time specified for the type and duration required. Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.

HOUSEKEEPING

A-H: COMBUSTIBLE STORAGE:

315.2 Storage of combustible materials in buildings shall be maintained in a neat, orderly manner. Storage shall be separated from heaters or heating devices. Storage shall be maintained 2 feet or more below the ceiling in non-sprinklered areas of buildings and a minimum of 18 inches below sprinkler head deflectors in sprinklered areas of buildings. Combustible material shall not be stored in exits or exit enclosures. Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms. Outside storage of combustible materials shall not be located within 10 feet of a property line. Combustible waste containers more than 40 gallons shall have lids and must be made of metal or approved combustible material. Attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistive construction.

EXCEPTION: if the area is protected by an approved automatic sprinkler system.

J: OILY RAGS:

304.3.1 Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in listed disposal containers (self-closing lids). Contents shall be removed and disposed of daily.

K: UNVENTED HEATING:

603.4 Portable unvented fuel-fired heating equipment shall be prohibited.

L: GREASE LADEN VAPOR HOOD REQUIREMENT:

609.2 A Type I hood shall be installed at or above all commercial food cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

N: COOKING EQUIPMENT CLEANED:

904.11.6.3 Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

O: FIRE DEPARTMENT CONNECTION:

508.5.4 Items shall not be placed or kept near fire hydrants, fire department inlet connections (FDC) in a manner that would prevent such equipment or fire hydrants from being immediately discernible and from gaining immediate access to the fire protection equipment or fire hydrants.

P: HAZARDOUS SPACES:

T508.2 Incidental use areas shall be separated or protected, or both, in accordance with Table 508.2., 1 hour or accessories Furnace room single piece >400,000 BTU Boiler room Refrigerant machinery rooms, Lab and vocational shops, in Group E Laundry rooms over 100 sq. ft. Storage rooms over 100 sq. ft. 2 hours; or 1 hour & accessories Parking garage (Section 406.2) Paint shops, 2 hours & accessories Incinerator rooms.

ELECTRICAL

A-C: POWER STRIPS:

- 605.4 Re-locatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Re-locatable power taps shall be directly connected to a permanently installed receptacle. Re-locatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

D-J: EXTENSION CORDS:

- 605.5 Extension cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, or extended through walls, ceilings or floors. Extension cords shall be plugged directly into an approved receptacle, power tap, or multi-plug adapter. Except for approved multi-plug extension cords, each extension cord shall serve only one portable appliance. Extension cords shall not contain splices or damage. Extension cords shall be grounded when serving grounded portable appliances. The capacity of the extension cords shall not be less than the rated capacity of the portable appliance supplied by the cord.

K: PANEL:

- 605.3 A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

L: JUNCTION BOX:

- 605.6 Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

M: ELECTRICAL MOTORS:

- 605.8 Electrical motors shall be maintained free from excessive accumulations of oil, dirt, waste and debris

N-O: TEMPORARY WIRING:

- 605.9 Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Exception: Longer for construction, remodeling, repair or demolition of buildings. Temporary wiring attached to a structure shall be attached in an approved manner.

P: MULTIPLUG ADAPTERS:

- 605.4 Multi-plug adapters, such as cube adapters, un-fused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

POWER-OPERATED DOORS RELEASE:

- 604.2.17 Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be openable by a manual release mechanism at the door, and either emergency power or a remote mechanical operating release shall be provided.

MISCELLANEOUS

E: EVACUATION PLAN:

404.2

An approved fire safety and evacuation plan shall be prepared and maintained.
The plan shall be reviewed or updated annually.

F: EVACUATION DRILL FREQUENCY:

408.6.1 Table 405.2

Emergency evacuation drills shall be conducted in Group I occupancies quarterly on each shift. All employees must participate.

HAZARDOUS MATERIALS

A: PERMIT (NIC):

105.6.16 #2 An operational permit is required to store, handle or use Class I liquids in excess of 5 gallons inside a building and 10 gallons outside.

B-C: HAZARDOUS MATERIAL STORAGE:

2703.9.8, 3404.3.3.5.3 Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. of 0.5 gallon. Shelf storage of flammable and combustible liquids shall be orderly.

D: BELOW GRADE LPG CONTAINERS:

3803.2.1.1 Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gases might collect

E: FLAMMABLE LIQUID AND GAS STORAGE:

3404.3.4.4 Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet.

I: NO SMOKING:

2703.7.1 **"NO SMOKING"** signs shall be posted in areas where containing flammable or combustible hazardous materials are stored, dispensed or used.

FIRE PROTECTION

A-E: RATED DOORS MAINTAINED:

703.2, 703.4, 703.2

Fire doors and smoke barrier doors shall not be modified, blocked or obstructed or made inoperable. Swinging fire doors shall close and latch automatically. Horizontal and vertical sliding doors shall be inspected and tested annually. A written record shall be maintained and be available. Magnetic hold-open devices and automatic door closers on fire doors, where provided, shall be maintained. If fire doors are out of service the door shall remain in the closed position.

F&H-I: DECORATIONS:

806.1, 807.1

Curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall be flame resistant. Natural cut trees shall be prohibited. In Group I-3, combustible decorations are prohibited.

G: RATED DOORS BLOCKED OR WEDGED:

Table 1017.1, 703.2

In Group I-3 occupancies, openings through fire-resistance-rated assemblies shall be protected by self-closing or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly. Fire doors and smoke barrier doors shall not be blocked. No door wedges or fold down feet.

J: FIRE RESISTANCE-RATED CONSTRUCTION:

703.1

The required fire-resistance rating of fire-resistance-rated construction (including walls, fire stops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

K: INTERIOR FINISH:

803.1, 803.5, T803.3

Interior wall and ceiling finish shall have a flame spread index not greater than that specified for the group and location designated.

L: VERTICAL SHAFTS:

704.1, T 704.1

Interior vertical shafts, including but not limited to stairways, elevator hoist ways, service and utility shafts that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1. Group I Vertical openings connecting two or more stories 1-hour protection. All, other than Group I Vertical openings connecting three to five stories 1-hour protection or automatic sprinklers throughout All, other than Group I Vertical openings connecting more than five stories 1-hour protection.

KANSAS STATUTES AND REGULATIONS

KS01: FIRE PROTECTION CHANGES:

K.S.A. 31-150

New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector. See Fire Fact 060, 061, 063, 064, 065,

EXCEPTION: Regents schools and Washburn University in Topeka

KS02: EMERGENCY PROCEDURES:

K.A.R. 22-18-2(c)

Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS03: BUILDING STRUCTURAL SOUNDNESS:

K.S.A. 31-133(a)

If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

KS04: EXTERIOR STAIR SUPPORT:

K.S.A. 31-133(a)

Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS05: BELOW GRADE LP INSTALLATION:

K.S.A. 31-133(a)

Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system be pressure tested and documented by authorized LP gas dealer or marketer.

KS06: BOILER CERTIFICATE:

K.S.A. 44-924(b)

A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS07: SYSTEM SERVICE:

K.A.R. 22-10

Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS08: PTR/RELIEF VALUE:

K.S.A. 44-924(b) Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS09: LOOSE COMBUSTIBLE STORAGE:

K.S.A. 31-133 Loose combustible storage is prohibited in boiler and furnace rooms and exit ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

K.S.A. 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS11: GAS POWERED EQUIPMENT:

K.S.A. 31-133 Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS12: FLAMMABLE LIQUID STORAGE:

K.S.A. 31-133 Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS13: DANGEROUS CONDITIONS:

K.S.A. 31-133 Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS14: FIRE DRILL FREQUENCY (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS15: FIRE DRILL AND DISABILITY (GROUP E):

K.A.R. 22-18-2(a) Fire drill procedures for occupants with disabilities shall exist in a written format and shall be maintained.

KS16: FIRE DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be documented on a record provided by OSFM and publicly posted.

INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD.

KS17: TORNADO DRILL ALARM (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm.

KS18: TORNADO REFUGE AREA (GROUP E):

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS19: TORNADO DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS20: TORNADO DRILL DOCUMENTATION (GROUP E):

K.S.A. 31-150 Mobile classrooms require a remote, complying escape window or second exit door.

EXCEPTION: When each classroom has a door directly to the exterior.

KS21: BUS BARN (GROUP E):

K.S.A. 31-144(c) Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing.(For auto-shop classrooms, see hazardous rooms.)

KS22: JUVENILE DETENTION FIRE DRILL (GROUP I):

K.A.R. 22-15-7(q) Quarterly fire drills for staff training are required and must be documented.

K23: JUVENILE DETENTION CONSTRUCTION (GROUP I):

K.A.R. 22-15-7(b)

K.S.A. 31-136

(Equivalent construction types)

Approved construction shall be one of the following for single story buildings: 1) One hour non-combustible, or 2) When previously approved and documented in writing by the KSFMO a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or b) heavy timber construction and fully sprinkled.

KS24: ROLLING FIRE DOORS:

K.S.A 31-133, 06

If a fire-rated door is not required at a location, the rolling door should be secured or removed. If a fire-rated door is required, the rolling door should be secured in place or removed completely, and then replaced with properly rated swinging doors. If the overhead doors cannot be immediately eliminated, the rolling doors shall be checked to insure they are being maintained properly and plans should be made to replace the doors.

FUELS

NFPA 30/30A - 2008

A uniform system of defining and classifying flammable and combustible liquids.

FUELS

11F-01: PLAN APPROVAL:

KAR 22-7-7

Before the construction or modification of any installation for the storage, handling or use of flammable liquids is undertaken, drawings or blueprints made to scale shall be submitted to the state fire marshal with an application, for approval.

- 1) Each new installation of tanks containing flammable or combustible liquids in the following amounts:
- 2) Any state, county or local governmental unit installing tanks of 660 gallons or more capacity
- 3) Any Industrial or Business company installing tanks of 660 gallons or more capacity
- 4) Any agricultural farm installation of tanks of 1,100 gallons or more capacity and
- 5) Any tank installed for the retail sale of flammable or combustible product through dispenser devices
- 6) Any modifications to or replacements of tanks or piping at any establishment or facility meeting the requirements of (1) and
- 7) Any installation of new dispenser locations at any establishments or facility meeting the requirements of (1). This does not include the routine replacement of dispensers at existing sites.

11F-02: APPROVED STORAGE TANKS:

08-30A/3.3.15.1

A horizontal or vertical tank that is listed and intended for fixed installations, without backfill, above or below grade and is used within the scope of its approval or listing.

NOTE: Some existing tanks may not have a label and can be accepted for use provided they have proper atmospheric and emergency venting and a fire valve on the piping below the liquid level.

11F-03: TANK LOCATION:

KAR 22-7-8(a)(2)(A) 08-30/22.4.1

New installations, on or after February 4, 2011 shall have prior OSFM approval. Documentation should be available for inspector verification. Location of existing tanks to buildings, docks, or property lines **IS NOT** deemed distinctly hazardous and can continue as determined by the inspector.

11F-04: EMERGENCY VENTING:

KAR 22-7-8(a)(2)(B) 08-30/22.7.1, 22-7.1.1.3

Emergency relief venting in the form of construction or a device Devices that will relieve excessive internal pressure caused by an exposure fire shall be provided for:

- 1) any size AST used for retail refueling of vehicles; or
- 2) any other AST of 660 gallons or more capacity; or
- 3) any existing AST of 1,100 gallons or more used for storage of Class I & II liquids.

11F-05: TANK GAUGING:

KAR 22-7-8(B)(2)(C)

Tank gauging shall be provided for:

- 1) any size AST used for retail refueling of vehicles; or
- 2) any other tank of 660 gallons or more capacity, or
- 3) any existing AST of 1,100 gallons or more shall have a liquid level gauge, or provide a suitable means to prevent overfilling of the tank. "Sticking" of tank is permitted as long as conversion charts are available on-site.

11F-06: CONTAINMENT DIKING:

KAR 22-7-8(B)(2)(D)

Containment diking shall be provided for:

- 1) any size AST used for retail refueling of vehicle; or
- 2) any other tank of 660 gallons or more capacity. Containment capacity shall be 110% of the volume of the largest tank.

For example: a 10,000 g tank shall have containment for 11,000 g. 1 gallon = 231 cubic inches and 1 cubic foot of storage = 7.48 gallons.

11F-07: TANK FOUNDATION:

08-30/22.5.2

Tanks shall rest on the ground or on foundations made of concrete, masonry, or steel. Piling or steel supports with over 12 inches exposed shall have a fire resistance of not less than 2 hours. Existing supports may remain as is, if they do not constitute a distinct life safety hazard, i.e. close by populated areas or waterways.

11F-08: MAX. SIZE AST TO CONNECT TO DISPENSER:

KAR 22-7-11

Above ground tanks of no more than 12,000 gallons may be connected to a dispenser used for refueling vehicles if installation complies with KSFM requirements or if the inspector determines that adequate safeguards and a reasonable degree of safety is maintained.

11F-09: NORMAL VENTING:

8-30/21.4.3, 27.8.1.1

Vent pipes on all above ground and underground storage tanks shall be 12 feet above grade level and in a clear area away from eaves or opening where vapors could accumulate.

11F-10: CORROSION PROTECTION:

08-30/21.4.5, 27.6.4

Storage tanks shall be properly protected and maintained against corrosion.

11F-11: TANKS LIQUID TIGHT:

08-30/21.8.4

Each storage tank shall be maintained liquid tight. Each storage tank that is leaking shall be emptied of liquid or repaired.

11F-12: PRODUCT IDENTIFICATION:

08-30/21.7.2

All above ground storage tanks shall have product or contents clearly marked and visible on each tank. Either NFPA 704 HAZARDOUS MATERIALS diamond marking or contents name are acceptable.

11F-13: WEED/COMBUSTIBLES:

08-30/6.9.4

All facilities shall be kept free of weeds, trash, and unnecessary combustibles. Combustible storage, weeds or grass, or empty or full drums are not permitted.

11F-14: FIRE VALVES:

08-30/22.13.1

Each connection to an above ground tank through which liquid can normally flow shall be provided with an internal or external valve located as close as practical to the shell of the tank.

11F-15: PIPING MATERIAL LIQUID TIGHT:

08-30/27.3.2 A piping system that is leaking constitutes a distinct hazard and shall be emptied of liquid or repaired in an acceptable manner.

11F-16: PIPING PROTECTED & SUPPORTED:

08-30/27.6.1 Piping systems shall be supported and protected against physical damage, including damage from stresses arising from settlement, vibrations, expansion, or contraction.

11F-17: PIPING CORROSION PROTECTION:

08-30/27.6.4 All exposed piping shall be protected against corrosion.

11F-18: CHECK VALVES:

08-30/27.6.6.3
27.6.7, 27.8.2.12.1 All transport unloading lines attached to any AST below the liquid level shall be equipped with a backflow check valve.

NOTE: If loading and unloading is done through a common pipe, a backflow check valve is not required provided they have an accessible block valve.

11F-19: PIPING IDENTIFICATION:

08-30A/5.2.5 All fill lines shall be clearly marked or color coded for product identification.

11F-20: DISPENSING LOCATION:

08-30A/6.2.1 Dispensers shall be so located that all parts of the vehicle being fueled will be on the premises of the service station.

11F-21: DISPENSER EMERGENCY SHUT-OFF:

08-30A/6.7 2.1 One or more clearly identified emergency shutoff devices or electrical disconnects shall be provided. Such devices or disconnects shall be located be installed in approved locations but not less than 20 feet or more than 100 feet from the dispensing devices they serve.

11F-22: CLASS I/II LIQUID ACCIDENTAL DISCHARGE:

08-30A/6.3.1 Class I and Class II liquids shall be transferred only through fixed pumps designed and equipped to allow control of flow and prevent leakage and accidental discharge.

11F-23: DISPENSER CONTROL:

08-30A/6.3.3 A control shall be provided that will permit the pump to operate only when a dispensing nozzle is removed from its bracket or normal position. This control shall also stop the pump when nozzles are returned to their storage position.

11F-24: DISPENSER COLLISION PROTECTION:

KAR 22-7-8 (A)(2)(I) Dispensing devices shall be protected by substantial collision protection at the ends of the dispensing islands.

11F-25: DISPENSER ANCHORED:

08-30A/6.3.4 All dispensers shall be mounted on a concrete island and securely bolted in place.

11F-26: AST SERVICE STATION SOLENOID VALVE:

KAR 22-7-8 (A)(2)(G)

If an AST is installed at an elevation which produces gravity head on a service station dispensing device used to refuel vehicles, it shall have an electric solenoid valve installed adjacent to and downstream from the fire valve.

11F-27: DISPENSER PRESSURIZED PIPING SYSTEM:KAR 22-7-8(A)(2)(F)
08-30A /6.3.9

A rigidly anchored emergency shut-off valve, incorporating fusible link and designed to close automatically in case of severe impact or fire, shall be installed under all dispensers with pressurized piping systems (pump located at or in the storage tank).

11F-28: AST SUPPLIED DISPENSER VACUUM:

KAR 22-7-8 (A)(2)(H)

A vacuum-actuated siphon valve shall be installed and rigidly anchored under all dispensers served by AST which creates a gravity head at the dispenser.

11F-29: DISPENSER HOSE LENGTH:

08-30A/6.5.1

Dispenser hose length shall not exceed 18 feet in length and shall be listed.

11F-30: DISPENSER-BREAKAWAY DEVICE:

08-30A/6.5.2-6.5.3

A listed emergency breakaway device shall be installed on all dispensing hoses. When equipped with a retriever, the breakaway device shall be between the retriever that attaches to the hose and the nozzle.

11F-31: DISPENSER-AUTOMATIC NOZZLES:

08-30A-6.6.1

All nozzles shall be the automatic closing type nozzle with or without a latch open device and shall be listed.

11F-32: DISPENSER-AUTOMATIC SHUT OFF:

08-30A/6.7

A clearly identified and easily accessible switch or circuit breaker shall be provided at a location remote that will shut off the power to all dispensers in the event of an emergency.

11F-33: EMERGENCY TRAINING:

K.A.R 22-7-10

Each employee involved in fuel transfer into motor vehicles at a retail service station shall be trained in proper procedures in case of fire, overfill, or fuel spill situation. Training shall include handling improper transfer of fuel, types of improper and illegal containers, and instruction on the proper use of a fire extinguisher. Document the training and maintain records for inspection upon request. Retail service stations shall have emergency instructions covering fire, overfill, or fuel spill procedures posted and readily available in the vicinity of all control consoles or attendant locations.

11F-34: FLEXIBLE HOSE:

08-30/18.3.7

Listed flexible hose may be used where vibration exists and at loading racks for fill liens. Hoses shall be free of cracks or damage.

11F-35: LOADING/UNLOADING LOCATION:

08-30/28.4.1

Tank vehicle loading and unloading facilities shall be separated from aboveground tanks, buildings and property lines by a distance of at least 25 feet for Class I liquids and 15 feet for Class II liquids measured from the nearest transfer connection.

11F-36: TRANSPORT UNLOADING:

K.A.R. 22-7-9

Any individual conducting the transfer of flammable or combustible liquids from a transport vehicle to a storage tank governed by the Kansas Fire Prevention Code shall verify the available capacity of the tank prior to starting transfer operations.

11F-37: STATIC PROTECTION:

08-30/28.3.1.2

Provide proper bonding at all facilities where tank vehicles are loaded through open domes. Grounding cable must be attached to a solid ground, i.e. a grounding rod. Grounding to loading rack will not provide a sufficient ground.

11F-38: CONNECTION TO STATIC BOND:

08-30/28.11.1.2

Bonding connection shall be made to the tank vehicle BEFORE dome covers are raised and shall remain in place until filling is complete and all dome covers are closed and secured.

11F-39: FINAL CONTROL FLOW VALVES:

08-30/28.11.1.6

During top loading a tank vehicle with Class I or Class II liquids, the final control valve shall be of the self-closing type and be manually held open except where automatic means are provided to prevent overfilling.

11F-40: DOWNSPOUTS-LOADING RACK:

08-30/28.11.1.5

When filling into open domes of tank vehicles, transfer shall be through a downspout which extends to near the bottom of the tank.

11F-41: FIRE EXTINGUISHER:

9.2.5.2; 07-10/T.6.3.1.1

Each service station shall provide at least one 40 BC rated fire extinguisher.

NOTE: Convenience stores shall have at least one 2A:40BC rated fire extinguisher. Extinguisher shall be maintained annually by a licensed firm.

11F-42: SIGNAGE:

08-30A/9.2.5.4

Islands dispensing Class I liquids shall have warning signs with the following equivalent wording:

- (1) NO SMOKING
- (2) STOP ENGINE
- (3) IT IS UNLAWFUL AND DANGEROUS TO DISPENSE GASOLINE INTO UNAPPROVED CONTAINERS. Island dispensing ONLY Class II liquids shall have "NO SMOKING" signs.

11F-43: ELECTRICAL EQUIPMENT:

08-30A/8.3.5

Electrical equipment where Class I liquids are stored, handled, or dispensed shall be in an explosive-proof conduit with no exposed wiring or open boxes.

11F-44: HEATING EQUIPMENT:

08-30A/7.6.5-7.6.6

Where an open flame or electrical arc located in an area where Class I liquids are dispensed or transferred shall have 1-hour fire-rated separation or be located at least 8 ft above floor level. In lubrication or service rooms where no Class I liquids are dispensed or transferred, heating equipment shall be located at least 18 inches above floor level and must be protected from physical damage.

11F-45: ATTENDANT PRESENT:

08-30A/6.7.1 All attended self-service stations shall have at least one attendant on duty while the station is open for business.

11F-46: EMERGENCY SHUTOFF:

08-30A/6.7.1 At attended motor fuel dispensing facilities, the devices or disconnects shall be readily accessible to the attendant.

11F-47: EMERGENCY SHUTOFF-UNATTENDED STATION:

08-30A-6.7.2 Emergency shut off at unattended motor fuel dispensing facilities, the devices or disconnects shall be readily accessible to patrons and at least one additional device or disconnect shall be readily accessible to each group of dispensing devices on an individual island.

11F-48: EMERGENCY INSTRUCTIONS-UNATTENDED STATIONS:

08-30A/9.5.3 Operating and emergency instructions shall be posted and visible in the dispensing area and shall include the following information:

- 1) Location of emergency shut-off (unless obvious), and
- 2) Location of fire extinguisher (unless obvious), and
- 3) Emergency instruction which incorporates the following or equivalent wording: Company Name, IN CASE OF FIRE OR SPILL, Use emergency shut-off, Report to: (Company emergency telephone number) & (Local fire department telephone number)

FIRE EXTINGUISHER-UNATTENDED STATION:

08-30A/9.2.5.2
07-10/T.6.3.1.1 A minimum 40BC rated fire extinguisher shall be available for use within 100 ft of the dispenser site. Extinguishers shall be maintained annually by a licensed firm.

HOMEDAY CARE

IFC 2006

Child Care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.

MAIN LEVEL EXIT:	Child care is on main level and has two remote compliant exits. (Secondary exit may be stairs, a compliant rescue/ventilation window or door leading directly to the outside).
BASEMENT EXIT:	Child care is in the basement area and has compliant exiting. (Secondary exit may be a compliant stairs leading to the main level, Rescue/ventilation window or door leading directly to the outside).
SECOND FLOOR EXIT:	Child care is on the second floor and has compliant exiting. (Secondary exit may be a compliant stairs leading to the main level, Rescue/ventilation window or door leading directly to the outside).
EXIT THROUGH HAZARDOUS AREA:	Primary or Secondary means of escape does not exit through any hazard area. (Garage, storage, etc.)
EXIT DOOR OPERATION:	Every required exit door can be easily opened from the inside at all times when the facility is operating.
EXIT PATH OBSTRUCTION:	Every ESCAPE PATH including all stairways is clear of obstacles and all doors are in proper working condition.
SMOKE DETECTION INSTALLED:	Working smoke detectors are located in every exit pathway and in each sleeping room used for child care. Single-station smoke detection hardwired to the electrical system with battery back- up or ten year lithium battery detectors shall be required for initial inspection (Licensed after January 1, 2003) Existing providers, previously licensed before January 1, 2003 may continue with battery detectors.
SMOKE DETECTOR MAINTENANCE:	Smoke detectors are tested monthly and records are kept on file for review.
FLSA POSTED:	Copy of the current FIRE/LIFE SAFETY AGREEMENT is posted next to license.
CLOSET DOORS:	Children can open every closet door from the inside at all times.
WRITTEN EMERGENCY PROCEDURES:	Written emergency procedures for fire evacuation are provided and practiced monthly.
FIRE DRILLS:	Monthly fire drills are documented. Drills shall be conducted and evacuation times shall be within 4 minutes. Inspector may ask the operator to demonstrate ability to conduct such a fire drill in his or her presence.
TORNADO DRILLS:	Written emergency procedures for tornadoes are provided and practiced monthly April through September.
BATHROOM DOORS:	Every bathroom door can be unlocked from the outside at all times. The unlocking key/device is readily accessible to the provider.
ELECTRICAL OUTLETS:	All unused electrical outlets (in licensed areas) have child-resistant protective covers.
FUEL FIRED HEATING:	All natural gas, kerosene, wood, propane heaters, etc., are properly vented to the outside of the home.
HEAT BARRIER:	A barrier that prevents children from getting too close or burned protects all heating devices.

**ONE OR TWO FAMILY
DWELLING:**

Child care provider is in a structure designed and/or used as one or two family dwelling. Day Care Center requirements must apply if in an apartment, church, commercial building, or other area.

HOTEL/MOTEL

IFC 2006

Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent and transient in nature.

EXITS

R EXITS A A: TEMPORARY EGRESS

- 1001.2 It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

R EXITS B B: DOOR SWING

- 1008.1.2 Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons.

R EXITS C C: DOOR LOCKS REQUIRE KEY

- 1008.1.8 Egress doors shall be openable from the egress side without the use of a key or special knowledge or effort. See exceptions.

R EXITS D D: TRAVEL DISTANCE

- Table 1019.2 In a Group R-2 occupancy the maximum travel distance to an exit is 50 feet. In all other Group R occupancies, the maximum is 75 feet.

R EXITS E E: CONTINUOUS EXITS

- 1019.3 Exits shall be continuous from the point of entry into the exit to the exit discharge.

R EXITS F F: EXTERIOR EXITS

- 1018.2 Exterior exit doors shall lead directly to the exit discharge or the public way.

R EXITS G G: NORMAL ILLUMINATION

- 1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

R EXITS H J: EXIT SIGNS

- 1011.1, 1006.1 Exit signs are required in rooms or areas which require two or more exits. Main exterior exit door sign may be exempt. Exit signs are not required in individual sleeping units or dwelling units in Group R-1, R-2, or R-3. Exit sign placement shall be such that no point in an exit access corridor is more than 100 feet or the listed viewing distance, whichever is less, from the nearest visible exit sign. Exit signs shall be internally or externally illuminated at all times

R EXITS K K: EXIT OBSTRUCTION

- 1003.6 Obstruction to exits shall not be placed in the required width and exits shall not be obstructed in any manner.

R EXITS L L: MEANS OF EGRESS

- 1003.6 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel.

R EXITS M M: EGRESS WIDTH

1003.6 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel.

R EXITS N N: NUMBER OF EXITS

Table 1015.1 Two exits or exit access doorways from any space in Group R shall be provided if the occupant load of the space exceeds 10 persons.

R EXITS O P: EGRESS DOORS –

1008.1.3.4 &
1008.1.8.3 Access-controlled entrance egress doors are permitted within Group R-1 and R-2 occupancies. The doors shall be arranged to unlock by a signal from or loss of power to the motion sensor. These shall be a manual unlocking device located 40-48 inches above the floor and within 5 feet of the secured doors with a sign that reads "PUSH TO EXIT". Activation of the fire alarm system or the automatic sprinklers shall unlock the doors. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge.

R EXITS Q Q: EMERGENCY LIGHTING

1027.5 In the event of power supply failure, exit illumination shall be automatically provided from an emergency system except where the guestroom or living unit has direct access to the outside at grade level. Applicable to Group R-1, R-2, and R-4 occupancies only. Group R-3 is exempt. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

FIRE PROTECTION SYSTEMS

R FIRE A A: SPRINKLER SYSTEM REQUIRED

903.2.7 An automatic sprinkler system shall be provided throughout buildings with a Group R fire area.

R FIRE B B: EXTINGUISHER-MISSING

Table 906.3(1) One 2-A fire extinguisher per 6000 sq., ft. in light hazard (offices) and one 2-A per 3000 sq. ft. in an ordinary hazard (R-1, R-2, and R-4 only). Group R-3 is exempt.

R FIRE C C: TRAVEL DISTANCE

Table 906.3 (1) Maximum travel distance to a fire extinguisher is 75 feet.

R FIRE D-H: FIRE EXTINGUISHERS

906.5 Fire extinguishers shall be located in conspicuous locations where they will be readily accessible and immediately available for use. Portable fire extinguishers shall not be obstructed or obscured from view. In rooms or areas in which visual obstruction cannot be completely avoided, means shall be provided to indicate the location of extinguishers. Hand-held portable fire extinguishers, not housed in cabinets, shall be installed on hangers or brackets supplied. See Table 906.1 for additional required portable fire extinguishers. Fire extinguishers shall be serviced annually and shall have a current service tag attached. (NFPA 10)

R FIRE I J: SPRINKLER SYSTEMS

903.4

901.8 All valves controlling the water supply for automatic sprinkler systems and water-flow switches on all sprinkler systems shall be electronically supervised when system has 20 or more sprinkler heads. Painted head or cover plates are prohibited unless painted at the factor. They cannot be cleaned of paint. They must be replaced (NFPA 13, 6.2.6.2.1)

R FIRE K K: KITCHEN FIRE EXTINGUISHER

904.11 Group R-1 hotel kitchens must provide extinguishers and protection same as Group A-1 for commercial cooking areas.

R FIRE L L: FIRE EXTINGUISHERS

906.9 Portable fire extinguishers having a gross weight not exceeding 40 pounds shall be installed so that its top is not more than 5 feet above the floor. Extinguishers having a gross weight exceeding 40 pounds shall be installed so that its top is not more than 3.5 feet above the floor and the bottom not less than 4 inches above the floor.

R FIRE M M: SYSTEMS MAINTAINED

901.6,

Table 901.6.1 Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed. Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years. Fire protection systems shall be inspected, tested and maintained in accordance with the following; Portable fire extinguishers NFPA 10 Dry-chemical extinguishing systems NFPA 17 Wet-chemical extinguishing systems NFPA 17A Water-based fire protection systems NFPA 25 Fire alarm systems NFPA 72 Commercial Cooking equipment: NFPA 96 Emergency Standby Power: NFPA 110 & 111.

R FIRE O O: SMOKE ALARMS REQUIRED

907.3.2.1 Single- and multiple-station smoke alarms shall be installed in existing Group R occupancies.

R FIRE P-S: FIRE ALARM SYSTEM REQUIRED

907.3 A fire alarm system shall be installed in existing Group R hotels and motels more than three stories or with more than 20 guestrooms. A fire alarm system shall be installed in existing Group R-1 boarding and rooming houses. A fire alarm system shall be installed in existing Group R-2 apartment buildings with more than three stories or with more than 16 dwelling or sleeping units. See exceptions.

R FIRE T T: COMMERCIAL COOKING EQUIPMENT

904.11.5 Commercial cooking equipment involving vegetable oil or animal fat shall be protected by a Class K rated portable fire extinguisher provided within a 30-foot travel distance of commercial-type cooking equipment. Minimum 2.5-gallon or two 1.5-gallon Class K wet-chemical portable fire extinguisher.

R FIRE U U: COOKING AREAS

904.11.5.2 When cooking areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided. 1-4 fryers require one 1.5-gallon Class K and 5-8 fryers require two 1.5-gallon Class K portable fire extinguishers.

HOUSEKEEPING

R HOUSE A-E: COMBUSTIBLE MATERIAL STORAGE

- 315.2 Storage of combustible materials in buildings shall be maintained in a neat, orderly manner. Storage shall be separated from heaters or heating devices by distance or shielding so that ignition cannot occur. Storage shall be maintained 2 feet or more below the ceiling in non-sprinklered areas of buildings and a minimum of 18 inches below sprinkler head deflectors in sprinklered areas of buildings. Combustible material shall not be stored in exits or exit enclosures. Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms.

R HOUSE H H: UNVENTED HEATING

- 603.4 Portable unvented fuel-fired heating equipment shall be prohibited in Group R-1, R-2, R-3, and R-4 occupancies. Exception: Listed and approved unvented fuel-fired heaters in one and two family dwellings.

R HOUSE I I: OILY RAGS

- 304.1 Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in listed disposal containers (self-closing lids). Contents shall be removed and disposed of daily.
- 3404.3.3.5.3 Shelf storage of flammable and combustible liquids shall be maintained in an orderly manner.

R HOUSE K K: COOKING EQUIPMENT CLEANED

- 904.11.6.3 Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

HAZARDOUS MATERIALS

R HAZARD B-C: HAZARDOUS MATERIAL STORAGE

2703.9.8

3404.3.3.5.3 Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. of 0.5 gallon. Shelf storage of flammable and combustible liquids shall be orderly.

R HAZARD E E: FLAMMABLE LIQUID AND GAS STORAGE

3404.3.4.4 Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet.

R HAZARD F F: BELOW GRADE LPG STORAGE

3803.2.1.1 Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gas might collect.

R HAZARD H H: HAZARDOUS MATERIAL STORAGE

3503.1.1 Except for cylinders not exceeding 250 cu. ft. each, used for maintenance purposes, patient care or operation of equipment, flammable gases shall not be stored or used in Group R occupancies.

ELECTRICAL

R ELECT A-C: POWER STRIPS

- 605.4 Relocatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Relocatable power taps shall be directly connected to a permanently installed receptacle. Relocatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

R ELECT D-J: EXTENSION CORDS

- 605.5 Extension cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, or extended through walls, ceilings or floors. Extension cords shall be plugged directly into an approved receptacle, power tap, or multi-plug adapter. Except for approved multi-plug extension cords, each extension cord shall serve only one portable appliance. Extension cords shall not contain splices or damage. Extension cords shall be grounded when serving grounded portable appliances. The capacity of the extension cords shall not be less than the rated capacity of the portable appliance supplied by the cord.

R ELECT K K: PANEL

- 605.3 A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

R ELECT L L: JUNCTION BOX

- 605.6 Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

R ELECT M M: ELECTRICAL MOTORS

- 605.8 Electrical motors shall be maintained free from excessive accumulations of oil, dirt, waste and debris.

R ELECT N-O: TEMPORARY WIRING

- 605.9 Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Exception: Longer for construction, remodeling, repair or demolition of buildings. Temporary wiring attached to a structure shall be attached in an approved manner.

R ELECT P P: MULTIPLUG ADAPTERS

- 605.4 Multi-plug adapters, such as cube adapters, un-fused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

MISCELLANEOUS

R MISC E E: SYSTEMS MAINTAINED

907.20.5 The building owner shall be responsible for ensuring that the fire and life safety system are maintained in an operational condition at all times.

R MISC F-J: EVACUATION PLAN

404.2, 405.2 An approved fire safety and evacuation plan shall be prepared and maintained for Group R-1 buildings and Group R-2 college and university buildings. Employees in Group R-1 occupancies shall be trained in the fire emergency procedures described in the fire evacuation and fire safety plans. Training is annual. Emergency evacuation drills shall be held in Group R-1 occupancies quarterly on each shift by employees only. In Group R-1 occupancies, a diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each hotel, motel or dormitory sleeping unit.

R MISC K K: EMERGENCY GUIDE

408.9 In Group R-2 occupancies, each tenant shall be given a copy of the emergency guide prior to occupancy.

R MISC M M: EVACUATION

408.9 In Group R-4 occupancies, a fire safety and evacuation plan shall include special staff actions, including fire protection procedures for residents and shall be amended or revised upon admission of a resident with unusual needs.

PROTECTION

R PROTECT A-E: RATED DOORS MAINTAINED

- 703.2, 703.4 Fire doors and smoke barrier doors shall not be blocked or obstructed or otherwise made inoperable. Fire door assemblies shall not be modified. Swinging fire doors shall close from the full open position and latch automatically. The door closer shall exert enough force to close and latch the door from any partially open position. Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to confirm proper operation and full closure. A written record shall be maintained and be available. When magnetic hold-open devices on fire doors are out of service the door shall remain in the closed position.

R PROTECT F-H: DECORATIONS

- 806.1, 807.1 Natural cut trees shall be prohibited in Group M occupancies unless protected by automatic sprinkler system. Natural cut trees shall be prohibited in Group R-1 and R-2 occupancies unless protected by an automatic sprinkler system. Curtains, draperies, hangings and other decorative materials shall be flame resistant or be noncombustible in Group R-1 and dormitories in Group R-2. Ask to see certificate of treatment or test small piece outside.

R PROTECT I I: FUSIBLE LINKS

- 703.2 Fire door fusible links shall be replaced promptly whenever fused or damaged

KANSAS STATUTES AND REGULATIONS

KS-01 KS01: FIRE PROTECTION CHANGES

K.S.A. 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

EXCEPTION: Regents schools and Washburn University in Topeka

KS-02 KS02: EMERGENCY PROCEDURES

K.A.R. 22-18-2(c) Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS-03 KS03: BUILDING STRUCTURAL SOUNDNESS

K.S.A. 31-133(a) If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

KS-04 KS04: EXTERIOR STAIR SUPPORT

K.S.A. 31-133(a) Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS-05 KS05: BELOW GRADE LP INSTALLATION

K.S.A. 31-133(a) Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system is pressure tested and documented by authorized LP gas dealer or marketer.

KS-06 KS06: BOILER CERTIFICATE

K.S.A. 44-924(b) A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS-07 KS07: SYSTEM SERVICE

K.A.R. 22-10 Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS-08 KS08: PTR/RELIEF VALVE

K.S.A. 44-924(b) Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS-09 KS09: LOOSE COMBUSTIBLE STORAGE

K.S.A. 31-133 Loose combustible storage is prohibited in boiler and furnace rooms and exit ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

KS-10 KS10: COMPRESSED GAS CYLINDER

K.S.A. 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS-11 KS11: GAS POWERED EQUIPMENT

K.S.A. 31-133 Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS-12 KS12: FLAMMABLE LIQUID STORAGE

K.S.A. 31-133 Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS-13 KS13: DANGEROUS CONDITIONS

K.S.A. 31-133 Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS-14 KS14: FIRE DRILL FREQUENCY (GROUP E)

K.A.R. 22-18-2(a) Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS-15 KS15: FIRE DRILL AND DISABILITY (GROUP E)

K.A.R. 22-18-2(a) Fire drill procedures for occupants with disabilities shall exist in a written format and shall be maintained.

KS-16 KS16: FIRE DRILL DOCUMENTATION (GROUP E)

K.A.R. 22-18-2(a) Fire drills shall be documented on a record provided by OSFM and publicly posted. INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD

KS-17 KS17: TORNADO DRILL ALARM (GROUP E)

K.A.R. 22-18-2(c) Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm.

KS-18 KS18: TORNADO REFUGE AREA (GROUP E)

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS-19 KS19: TORNADO DRILL DOCUMENTATION

(GROUP E) K.A.R. 22-18-2(c)

Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS-20 KS20: ESCAPE WINDOW (GROUP E)

K.S.A. 31-150 Mobile classrooms require a remote, complying escape window or second exit door.
EXCEPTION: When each classroom has a door directly to the exterior.

KS-21 KS21: BUS BARN (GROUP E)

K.S.A. 31-144(c) Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing. (For auto-shop classrooms, see hazardous rooms.)

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS-22 KS22: JUVENILE DETENTION FIRE DRILL

(GROUP I) K.A.R. 22-15-7(q)

Quarterly fire drills for staff training are required and must be documented

KS-23 KS23: JUVENILE DETENTION CONSTRUCTION

(GROUP I)

K.A.R. 22-15-7(b) K.S.A. 31-136 (equivalent construction types)

Approved construction shall be one of the following for single story buildings:

- 1) One hour non-combustible, or
- 2) When previously approved and documented in writing by the OSFM
 - a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or
 - b) Heavy timber construction and fully sprinkled.

JAIL/DETENTION

2006 IFC

Includes buildings and structures that are inhabited by more than five persons who are under restraint or security. An I-3 facility is occupied by person who is generally incapable of self-preservation due to security measures not under the occupants' control.

EXITS

A: NUMBER OF EXITS:

1015.1 A minimum of two exits required if over 10 occupant load.

B: DOOR SWINGS:

1008.1.2 Egress doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons.

C: DOOR LOCKS REQUIRED KEY:

1008.1.8 Egress doors shall be operable from the egress side without the use of a key or special knowledge or effort.

D: NORMAL ILLUMINATION:

1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

E-F: EXIT SIGNS ILLUMINATED:

1011.1, 1011.2 Exit signs shall be internally or externally illuminated. Exit signs are not required in sleeping room areas in occupancies in Group I-3.

G: EXIT OBSTRUCTIONS:

1003.6 Obstructions shall not be placed in the required width of a means of egress. Exits shall not be obstructed in any manner.

H-I: EGRESS DOOR WIDTH:

1003.6, 10081.1 The required capacity of means of egress shall not be diminished (reduced) along the path of egress travel. Doorways shall not be less than 32" in clear width.

J: PANIC HARDWARE OPERATIONS:

10081.9, 1008.1.2 Where panic hardware is installed it shall unlatch with a maximum of 15 lbs. force applied to the panic bar. The door shall be set in motion when subjected to a 30-pound force applied to the latch side of the door missing.

K: REMOTE EXITS:

1015.2.1 When two exits are required from a room or space, they must be separated by 1/2 the diagonal of the room, or 1/3 the diagonal if sprinklered.

L: FLUSH OR SURFACE BOLTS:

1008.1.8.4 Manually operated flush bolts or surface bolts on exit doors are not permitted.

M: EMERGENCY LIGHTING:

- 1006.3 In the event of a power supply failure, an emergency system shall automatically illuminate all aisles and unenclosed egress stairways, corridors, exit enclosures, exit passageways, and exterior landings where two exits are required. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

N-O: EXITS SIGN REQUIRED:

- 1011.1, 1011.5.3 Exit signs are required in rooms or areas which require two or more exits. Exit signs shall be illuminated at all times.

P-Q EGRESS CORRIDOR WIDTH:

- 1017.2 The minimum corridor width shall be not less than 44 inches.

R: EXIT SIGN DISTANCE:

- 1011.1 Exit sign placement shall be such that no point in a corridor is more than 100 feet or the listed viewing distance, whichever is less, from the nearest visible exit sign.

S: EGRESS WIDTH (I3) JAIL/DETENTION:

- 1008.1.1 Door openings to resident sleeping rooms in occupancies in Group I-3 shall have a clear width of not less than 28 inches.

T: RATED CORRIDORS:

- Table: 1017.1 (P.124) I-4 must have a 1-hour rated corridor (Existing) or be fully sprinklered (New). I-3 is required to have a 1-hour rated corridor and be fully sprinklered.

U: DOOR LOCKS AND LATCHES:

- 1008.1.8.3 Locks and latches shall be permitted to prevent operation of doors where people are detained or restrained (Group I-3).

V: RESCUE WINDOW (EXISTING NON-SPRINKLED):

- 06-101, 17.2.11.1.1 Every room or space greater than 250 ft² and normally subject to client occupancy shall have not less than one outside window for emergency rescue that complies with the following: (1) Such windows shall be operable from the inside without the use of tools and shall provide a clear opening of not less than 20 in. in width, 24 in. in height, and 5.7 ft² in area. (2) The bottom of the opening shall be not more than 44 in. above the floor. (3) The clear opening shall allow a rectangular solid, with a width and

height that provides not less than the required 5.7 ft² opening and a depth of not less than 20 in. to pass fully through the opening.

EXCEPTION: Where the room or space has a door leading directly to the outside of the building.

FIRE PROTECTION SYSTEMS

A: SPRINKLER SYSTEM REQUIRED:

903.2.5

An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

EXCEPTION: An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 shall be allowed in Group I-1 facilities.

B-G: FIRE EXTINGUISHER:

Table: 906.3 (1) 906.3 (2) P. 80 1x2A per 6000 sq ft. in light hazard. 1x2A per 3000 sq. ft. in ordinary hazard. Max. travel distance to a fire extinguisher is 75 ft. Fire extinguishers shall be mounted, conspicuously located, unobstructed, and available for immediate use. If visual obstruction cannot be avoided, signs shall be provided. Height Requirements: <40lbs – Not more than 5ft>40lbs - Not more than 3.5ft and not less than 4in from floor.

J-L COOKING EQUIPMENT MAINTAINED:

2008-NFPA 96- 11.2.1,
11.2.4, 11.6.1 01 P. 21

Automatic extinguishing systems of commercial cooking equipment shall be serviced at least every 6 months by properly trained, qualified, and certified person (s). Fusible links and automatic sprinkler heads with fusible links shall be replaced at least annually. Maintain records and show proof. Upon inspection, if the exhaust system is found to be contaminated with deposits from grease-laden vapors, the contaminated portions of the exhaust system shall be cleaned by a properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction.

K- M: MANUAL ACTIVATION DEVICE:

904.11.1, 904.11.2

The actuation of commercial cooking equipment fire suppression system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The automatic fire-extinguishing system for commercial cooking systems shall have a manual actuation device that shall be located at or near a means of egress from the cooking area, 42-48 inches above floor, 10 to 20 feet away.

N: TYPE I HOOD AND SUPPRESSION:

904.2.1

Commercial kitchen (Type I) exhaust hood and duct systems shall be protected by an approved automatic fire-extinguishing system.

O: FIRE EXTINGUISHER SERVICE:

901.6.1 Fire extinguishers shall be serviced annually and shall have a current service tag attached. (NFPA 10).

P: SUPERVISED VALVES:

903.4 All valves controlling the water supply and water-flow switches on all sprinkler systems shall be electronically supervised when system has 20 or more sprinkler heads.

R-T: SYSTEMS MAINTAINED:

901.6, 901.6.1 Fire detection, alarm, extinguishing systems and emergency standby power shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed.

Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years.

Fire protection systems shall be inspected, tested and maintained in accordance with the following:

Portable fire extinguishers NFPA 10
Dry-chemical extinguishing systems NFPA 17
Wet-chemical extinguishing systems NFPA 17A
Water-based fire protection systems NFPA 25
Fire alarm systems NFPA 72
Commercial Cooking Equipment: NFPA 96
Emergency Standby Power: NFPA 110 & 111

S: PAINTED SPRINKLER HEADS:

901.6 Painted sprinkler heads or cover plates are prohibited unless painted at the factory. They cannot be cleaned of paint. They must be replaced.

U: COOKING EQUIPMENT CLEANED:

904.11.6.3 Hoods, grease-removal devices, fans, and ducts shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleaning shall be recorded, and records shall state the extent, time and date of cleaning.

V: FIRE HYDRANTS:

508.5.5 A 3-foot clear space shall be maintained around the circumference of fire hydrants.

X: CLASS K FIRE EXTINGUISHERS:

904.11.5.2 When cooking includes deep fat fryers, listed Class K portable fire extinguishers shall be provided. 1-4 fryers require one 1.5-gallon Class K and 5-8 fryers require two 1.5-gallon Class K portable fire extinguishers.

Y: MAINTENANCE RESPONSIBILITY:

907.20.5 The building owner shall be responsible for ensuring that the fire and life safety systems are maintained in an operational condition at all times.

Z: FIRE ALARM SYSTEM REQUIRED:

907.3.1.2, 907.3.1.3, 907.3.1.4 Group I-1: A fire alarm system shall be installed.

Exception: Where each sleeping room has an exit door directly to an exterior egress balcony that leads directly to the exits in accordance with Section 1014.5, and the building is not more than three stories in height. Group I-2: A fire alarm system shall be installed in accordance with Section 907.2.6.2. Group I-3: A fire alarm system shall be installed in accordance with Section 907.2.6.3.

ZA: FIRE WATCH:

901.7 Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

ZB: GENERATOR MAINTENANCE:

604.3, 604.5 Emergency and standby power systems shall be maintained in accordance with NFPA 110 and NFPA 111 such that the system is capable of supplying service within the time specified for the type and duration required. Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.

HOUSEKEEPING

A-H: COMBUSTIBLE STORAGE:

315.2

Storage of combustible materials in buildings shall be maintained in a neat, orderly manner. Storage shall be separated from heaters or heating devices. Storage shall be maintained 2 feet or more below the ceiling in nonsprinklered areas of buildings and a minimum of 18 inches below sprinkler head deflectors in sprinklered areas of buildings. Combustible material shall not be stored in exits or exit enclosures. Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms. Outside storage of combustible materials shall not be located within 10 feet of a property line. Combustible waste containers more than 40 gallons shall have lids and must be made of metal or approved combustible material. Attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistive construction.

EXCEPTION: if the area is protected by an approved automatic sprinkler system.

J: OILY RAGS:

304.3.1

Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in listed disposal containers (self-closing lids). Contents shall be removed and disposed of daily.

K: UNVENTED HEATING:

603.4

Portable unvented fuel-fired heating equipment shall be prohibited.

L: GREASE LADEN VAPOR HOOD EQUIPMENT:

609.2

A Type I hood shall be installed at or above all commercial food cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

N: COOKING EQUIPMENT CLEANED:

904.11.6.3

Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

O: FIRE DEPARTMENT CONNECTION:

508.5.4

Items shall not be placed or kept near fire hydrants, fire department inlet connections (FDC) in a manner that would prevent such equipment or fire hydrants from being immediately discernible and from gaining immediate access to the fire protection equipment or fire hydrants.

P: HAZARDOUS SPACES:

Table 508.2

Incidental use areas shall be separated or protected, or both, in accordance with Table 508.2. 1 hour or assembly. Furnace room single piece >400,000 BTU Boiler room, Refrigerant machinery rooms Lab and vocational shops, Group E Laundry rooms over 100 sq. ft. Storage rooms over 100 sq. ft. 2 hours; or 1 hour & assembly. Parking garage (Section 406.2) Paint shops 2 hours & assembly Incinerator rooms.

ELECTRICAL

A-C: POWER STRIPS:

605.4

Re-locatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Relocatable power taps shall be directly connected to a permanently installed receptacle. Relocatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

D-J: EXTENSION CORDS:

605.5

Extension cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, or extended through walls, ceilings or floors. Extension cords shall be plugged directly into an approved receptacle, power tap, or multiplug adapter. Except for approved multiplug extension cords, each extension cord shall serve only one portable appliance. Extension cords shall not contain splices or damage. Extension cords shall be grounded when serving grounded portable appliances. The ampacity of the extension cords shall not be less than the rated capacity of the portable appliance supplied.

K: PANELS:

605.3

A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

L: JUNCTION BOXES:

605.6

Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

M: ELECTRICAL MOTORS:

605.8

Electrical motors shall be maintained free from excessive accumulations of oil, dirt, waste and debris.

N-O: TEMPORARY WIRING:

605.9

Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days.

Exception: Longer for construction, remodeling, repair or demolition of buildings

P: MULTI-PLUG ADAPTERS:

605.4

Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

R: POWER OPERATED DOORS RELEASE:

604.2.17

Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be openable by a manual release mechanism at the door, and either emergency power or a remote mechanical operating release shall be provided.

MISCELLANEOUS

E: EVACUATION PLAN:

404.2

An approved fire safety and evacuation plan shall be prepared and maintained. The plan shall be reviewed or updated annually.

F: EVACUATION DRILL FREQUENCY:

408.6.1

Emergency evacuation drills shall be conducted in Group I occupancies quarterly on each shift. All employees must participate.

HAZARDOUS MATERIALS

B-C: HAZARDOUS MATERIAL STORAGE:

2703.9.8, 3404.3.3.5.3

Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. of 0.5 gallon. Shelf storage of flammable and combustible liquids shall be orderly.

D: BELOW GRADE LPG CONTAINERS:

3803.2.1.1

Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gases might collect.

E: FLAMMABLE LIQUID & GAS STORAGE:

3404.3.4.4

Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet.

I: NO SMOKING:

2703.7.1

"NO SMOKING" signs shall be posted in areas where containing flammable or combustible hazardous materials are stored, dispensed or used.

FIRE PROTECTION

A-E: RATED DOORS MAINTAINED:

703.2

Fire doors and smoke barrier doors shall not be modified, blocked or obstructed or made inoperable. Swinging fire doors shall close and latch automatically. Horizontal and vertical sliding doors shall be inspected and tested annually. A written record shall be maintained and be available. Magnetic hold-open devices and automatic door closers on fire doors, where provided, shall be maintained. If fire doors are out of service the door shall remain in the closed position.

F&H-I: DECORATIONS:

806.1, 807.1

Curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall be flame resistant. Natural cut trees shall be prohibited. In Group I-3, combustible decorations are prohibited.

G: RATED DOORS BLOCKED/WEDGED:

Table 1017.1, 703.2

In Group I-3 occupancies, openings through fire-resistance-rated assemblies shall be protected by self-closing or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly. Fire doors and smoke barrier doors shall not be blocked. No door wedges or fold down feet.

J: FIRE RESISTANCE RATED CONSTRUCTION:

703.1

The required fire-resistance rating of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural maintained). Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated.

K: INTERIOR FINISH:

803.1, 803.5, Table 803.3

Interior wall and ceiling finish shall have a flame spread index not greater than that specified for the group and location designated.

L: VERTICAL SHAFTS:

704.1

Interior vertical shafts, including but not limited to stairways, elevator hoist ways, service and utility shafts that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1.

Group I Vertical openings connecting two or more stories 1-hour protection. All other than Group I Vertical openings connecting three to five stories 1-hour protection or automatic sprinklers throughout. All, other than Group I Vertical openings connecting more than five stories 1-hour protection

KANSAS STATUTES AND REGULATIONS

KS01: FIRE PROTECTION CHANGES:

K.S.A. 31-150

New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector. See Fire Fact 060, 061, 063, 064, 065

EXCEPTION: Regents schools and Washburn University in Topeka

KS02: EMERGENCY PROCEDURES:

K.A.R. 22-18-2(c)

Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS03: BUILDING STRUCTURAL SOUNDNESS:

K.S.A. 31-133(a)

If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, and a report shall be provided to OSFM for review and determination of appropriate action

KS04: EXTERIOR STAIR SUPPORT:

K.S.A. 31-133(a)

Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS05: BELOW GRADE LP INSTALLATION:

K.S.A. 31-133(a)

Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system is pressure tested and documented by authorized LP gas dealer or marketer.

KS06: BOILER CERTIFICATE:

K.S.A. 44-924(b)

A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS07: SYSTEM SERVICE:

K.A.R. 22-10

Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS08: PTR/RELIEF VALVE:

K.S.A. 44-924(b)

Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS09: LOOSE COMBUSTIBLE STORAGE:

K.S.A. 31-133

Loose combustible storage is prohibited in boiler and furnace rooms and exit ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

KS10: COMPRESSED GAS CYLINDER:

K.S.A. 31-133

Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS11: GAS POWERED EQUIPMENT:

K.S.A. 31-133

Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS12: FLAMMABLE LIQUID STORAGE:

K.S.A. 31-133

Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS13: DANGEROUS CONDITIONS:

K.S.A. 31-133

Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS14: FIRE DRILL FREQUENCY:

K.A.R. 22-18-2(a)

Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS15: FIRE DRILL AND DISABILITY:

K.A.R. 22-18-2(a)

Fire drill procedures for occupants with disabilities shall exist in a written format and shall be maintained.

KS16: FIRE DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(a)

Fire drills shall be documented on a record provided by OSFM and publicly posted.

INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD.

KS17: TORNADO DRILL ALARM:

K.A.R. 22-18-2(c)

Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm

KS18: TORNADO REFUGE AREA (GROUP E):

K.A.R. 22-18-2(c)

Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS19: TORNADO DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(c)

Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS20: ESCAPE WINDOW (GROUP E):

K.S.A. 31-150

Mobile classrooms require a remote, complying escape window or second exit door.

EXCEPTION: When each classroom has a door directly to the exterior.

KS21: BUS BARN:

K.S.A. 31-144(c)

Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing. (For auto-shop classrooms, see hazardous rooms.)

KS22: JUVENILE DETENTION FIRE DRILL (GROUP 1):

K.A.R. 22-15-7(q)

Quarterly fire drills for staff training are required and must be documented.

KS23: JUVENILE DETENTION CONSTRUCTION (GROUP I):

K.A.R. 22-15-7(b)
K.S.A. 31-136
(equivalent construction types)

Approved construction shall be one of the following for single story buildings: 1) One hour non-combustible, or 2) When previously approved and documented in writing by the OSFM a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or b) heavy timber construction and fully sprinkled.

KS24: ROLLING FIRE DOORS:

K.S.A 31-133, 06

If a fire-rated door is not required at a location, the rolling door should be secured or removed. If a fire-rated door is required, the rolling door should be secured in place or removed completely, and then replaced with properly rated swinging doors. If the overhead doors cannot be immediately eliminated, the rolling doors shall be checked to insure they are being maintained properly and plans should be made to replace the doors.

RESIDENTIAL BOARD/CARE (SMALL)

NFPA 2006

A building or portion thereof that is used for lodging and boarding of four or more residents, not related by blood or marriage to owners or operators, for the purpose of providing personal care services.

GENERAL CHECKLIST

11-01: FIRE PROTECTION CHANGES IN FACILITIES:

KSA 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

11-02: BUILDING STRUCTURAL SOUNDNESS:

KSA 31-133(a); 06-101/4.2.2 If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

11-03: DANGEROUS CONDITIONS:

KSA 31-133 Situations requiring immediate actions and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the OSFM Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

11-04: EXITING DURING CONSTRUCTION:

06-101/4.6.10.1 Buildings, or portions of buildings, shall be permitted to be occupied during construction, repair, alterations, or additions only where required means of egress and required fire protection features are in place and continuously maintained for the portion occupied or where alternative life safety measures acceptable to OSFM are in place.

11-05: NUMBER OF EXITS:

06-101/7.4.1.2 The number of means of egress from any story or portions thereof, other than for existing buildings as permitted elsewhere in LSC 101, shall be not less than three for occupant loads more than 500 but not more than 1000, and not less than four for occupant loads more than 1000.

11-06: EXIT SIGNS:

06-101/7.10.1.2, 7.10.1.5.1 Exits, other than main exterior exit doors that obviously and clearly are identifiable as exits, shall be marked by an approved sign that is readily visible from any direction of exit access. Access to exits shall be marked by approved, readily visible signs in all cases where the exit or way to reach the exit is not readily apparent to the occupants.

11-07: ILLUMINATION OF PATH OF EGRESS:

06-101/7.8.1.2, 7.8.1.2.2 Illumination of means of egress shall be continuous during the time that the conditions of occupancy require that the means of egress be available for use. Automatic, motion sensor-type lighting switches shall be permitted within the means of egress, provided that the switch controllers are equipped for fail-safe operation, the illumination timers are set for a minimum 15-minute duration, and the motion sensor is activated by any occupant movement in the area served by the lighting units.

11-08: EXIT ACCESS ARRANGEMENT:

06-101/7.5.2.1

Access to an exit shall not be through kitchens, storerooms, restrooms, workrooms, closets, bedrooms or similar spaces, or other rooms or spaces subject to locking.

11-09: EXIT ACCESS AND OBSTRUCTIONS:

06-101/7.1.10.1

7.1.10.2.2, 7.7

Means of egress shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency. No obstruction by railings, barriers, or gates shall divide the means of egress into sections appurtenant to individual rooms, apartments, or other occupied spaces. Railings or other barriers can be installed to protect the path of travel against encroachment from furniture or other movable objects.

11-10: EXIT VISIBILITY:

06-101/7.1.10.2.1, 7.1.10.2.3

7.5.2.2.1, 7.5.2.2.2

No furnishings, decorations, or other objects shall obstruct exits, access thereto, egress there from, or visibility thereof. Mirrors shall not be placed on exit doors. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of egress. Exit access and exit doors shall be designed and arranged to be clearly recognizable. Hangings or draperies shall not be placed over exit doors or located so that they conceal or obscure any exit.

EXCEPTION: Section 7.5.2.2.2.

11-11: DOOR SWING:

06-101/7.2.1.4.2

Doors required to be of the side-hinged or pivoted-swinging type shall swing in the direction of egress travel where serving a room or area with an occupant load of 50 or more.

EXCEPTION: Doors in horizontal exits shall not be required to swing in the direction of egress travel for new horizontal exits or for existing horizontal exits doors in corridors not more than 6 ft. wide.

11-12: EXIT DOORS ADDITIONAL LOCKS (WITH PANIC HARDWARE):

06-101/7.2.1.5.11, 7.2.1.6

Devices shall not be installed in connection with any door on which panic hardware or fire exit hardware is required where such devices prevent or are intended to prevent the free use of the door for purposes of egress.

EXCEPTION: Delayed-egress locks and access-controlled egress doors in approved locations.

11-13: EXIT DOOR (WITHOUT PANIC HARDWARE):

06-101/7.2.1.5.1,

7.2.1.5.2, 7.2.1.5.3

Locks, if provided, shall not require the use of a key, a tool, or special knowledge or effort for operation from the egress side.

EXCEPTION: Where otherwise provided for in specific occupancy chapters.

11-14: RESTRICTED EXITS:

06-101/7.1.9, 18.2.2.2.4,
18.2.2.2.5, 19.2.2.2.4,
19.2.2.2.5

Any device or alarm installed to restrict the improper use of a means of egress shall be designed and installed so that it cannot, even in case of failure, impede or prevent emergency use of such means of egress.

EXCEPTIONS: 1) Healthcare facilities (for clinical needs only); 2) Detention facilities; and 3) Section 7.2.1.6.

11-15: OVERHEAD ROLLING FIRE DOORS:

06-101/7.1.10.1, 7.2.1.4.1.9

Overhead rolling fire doors across corridors or exit paths shall be secured open to prevent operation.

11-16: DOOR LANDINGS:

06-101/7.2.1.3.2

The elevation of the floor surfaces required by General Checklist 09 (7.2.1.3.1) shall be maintained on both sides of the doorway for a distance not less than the width of the widest leaf.

11-17: DOORS AND ELEVATION CHANGE:

06-101/7.2.1.3.1
7.2.1.3.5, 7.2.1.3.6

The elevation of the floor surfaces on both sides of a door shall not vary by more than 1/2 in.

EXCEPTIONS: 1) In existing buildings, where the door discharges to the outside or to an exterior balcony or exterior exit access, the floor level outside the door shall be permitted to be one step lower than that of the inside, but shall be not more than 8 in. lower. 2) In existing buildings, a door at the top of a stair shall be permitted to open directly at a stair, provided that the door does not swing over the stair and that the door serves an area with an occupant load of fewer than 50 persons.

11-18: EXTERIOR STAIR PROTECTION:

06-101/7.2.2.6.3.1

Outside stairs shall be separated from the interior of the building by construction with the fire resistance rating required for enclosed stairs with fixed or self-closing opening protective.

EXCEPTIONS: Limited exceptions found in 7.2.2.6.3.1.

11-19: EXTERIOR STAIR SUPPORT:

KSA 31-133(a); 06-101/7.2.8.6.2

Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

11-20: FIRE ESCAPE LADDERS NOT PERMITTED:

06-101/7.2.8.1.2.3,
7.2.8.6.2, Table 7.2.8.4.1(a)

New fire escape stairs, when approved, shall not incorporate ladders or access windows, regardless of occupancy classification or occupant load served. Existing fire escape ladders are acceptable only if previously approved by the AHJ and to serve no more than 5 persons.

11-21: TESTING DOCUMENTATION:

06-101/9.4.6, 7.10.9
9.8, 9.3.1, 7.2.3.13

All testing required by 06-101 of elevators, exit signs, fire protection system, smoke control systems, and smoke proof enclosures must be documented and will be subject to review.

11-22: MONTHLY TESTS OF ER LIGHTING AND EXITS SIGNS:

06-101/7.10.9,
7.9.3.1, 7.9.3.1.1.

Functional testing of required emergency lighting systems shall be conducted at 30-day intervals for not less than 30 seconds. Exit signs shall be visually inspected for operation at 30 day intervals. Written records of visual inspections and tests shall be kept by the owner for review.

11-23: ANNUAL TESTS OF ER LIGHTING AND EXIT SIGNS:

06-101/7.9.3.1, 7.9.3.1.1

Functional testing of required emergency lighting systems shall be conducted annually for not less than 1 1/2 hours if the emergency lighting system is battery powered. Written records of visual inspections and tests shall be kept by the owner for review.

11-24: ALTERNATIVE EMERGENCY LIGHT TESTING:

06-101/7.9.3.1.2,
7.9.3.1.3, 9.1.3

Computer-based, self-testing, or self-diagnostic battery-operated emergency lighting equipment shall be permitted if the testing schedule and documentation complies with 7.9.3.1.2 or 7.9.3.1.3.

11-25: EMERGENCY GENERATOR TESTING:

05-110/8.3, 8.4

When provided, written documentation shall be maintained of a) emergency generator weekly inspection, b) once a month load tests of at least 30 minute duration, c) exercising, and d) any repairs including date, personnel, notation of any unsatisfactory condition and the corrective action taken.

EXCEPTION: This does not apply to portable generators.

11-26: ELEVATOR TESTING:

06-101/9.4.6

All elevators equipped with fire fighters' emergency operations shall have a documented monthly operation test.

11-27: FIRE ALARM MAINTAINED:

06-101/4.5.7

Where required, a fire alarm or automatic detection system shall be operable and maintained at all times.

NOTE: installed systems shall be maintained and operable at all times.

11-28: POWER-ON INDICATOR:

07-72/4.4.7.3.1, 4.4.3.5.5

All primary and secondary power supplies to the alarm system shall be monitored for the presence of voltage at the point of connection to the system. For exceptions, see 07-72/4.4.7.3. Failure of either supply shall result in a trouble signal, which must be located in a constantly attended location.

11-29: SHALL BE AUDIBLE:

06-101/9.6.3.7

Audible alarm notification appliances shall be distributed as to be effectively heard above the average ambient sound level that exists under normal conditions of occupancy.

11-30: MANUAL PULL STATIONS:

06-101/9.6.2.3

07-72/5.13.4, 5.13.6

Where fire alarm systems are required, manual pull stations shall be provided in the natural exit access path near each required exit from an area. The operable part of each manual fire alarm box shall be not less than 3.5 ft. and not more than 4.5 ft. above floor level. Manual fire alarm boxes shall be located within 5 ft. of the exit doorway opening at each exit on each floor.

11-31: FIRE ALARM/DETECTION SYSTEM TESTING:

06-101/9.6.1.5,

07-72/Table 10.4.4

Where required, a fire alarm or automatic detection system shall have an approved maintenance and testing program complying with the applicable requirements of NFPA 80 (National Electrical Code) and NFPA 72 (National Fire Alarm Code).

NOTE: Installed systems shall be maintained and operable at all times.

11-32: SENSITIVITY TESTING:

07-72/10.4.4.2,

10.4.4.2.1-10.4.4.2.6

Sensitivity testing of smoke detectors is required for detectors connected to fire alarm systems, and testing shall be done in accordance with NFPA 72: a) Sensitivity shall be checked within 1 year after installation; and b) Sensitivity shall be checked every alternate year thereafter.

EXCEPTION: After the second required calibration test, if sensitivity tests indicate that the device has remained within its listed and marked sensitivity range, the length of time between calibration tests shall be permitted to be extended to a maximum of five years.

NOTE: if detectors are added to the system, the timing of sensitivity testing starts over for that specific zone.

11-33: FIRE WATCH REQUIRED: FIRE ALARM:

06-101/9.6.1.6

Where a required fire alarm system is out of service for less than four hours, an informal fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service. Where a required fire alarm system is out of service for more than 4 hours in a 24-hour period, OSFM and the local jurisdiction shall be notified and the building shall be evacuated or an approved formal fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service.

11-34: SPRINKLER MAINTAINED:

06-101/4.5.7, 9.7

Where required, an automatic sprinkler system shall be operable and maintained at all times.

NOTE: installed systems shall be maintained and operable at all times.

11-35: CONTROL VALVES SUPERVISED:

07-13/8.16.1.1.2.1

Valves on connections to water supplies, sectional control and isolation valves, and other valves in supply pipes to sprinklers and other fixed water-based fire suppression systems shall be supervised by one of the following methods: 1) Central station, proprietary, or remote station signaling service, 2) Local signaling service that will cause the sounding of an audible signal at a constantly attended point, 3) valves locked in the correct position; 4) valves located within fenced enclosures under the control of the owner, sealed in the open position, and inspected weekly as part of an approved procedure.

11-36: STORAGE IN SPRINKLER-PROTECTED AREA:

07-13/8.5.6.1

Storage of all materials must be kept at least 18" below the deflector of the sprinkler head. See NFPA 13 for limited exceptions.

11-37: STORAGE BY SPRINKLER RISERS:

08-25/4.1.1, 9.7.5

Storage of all materials shall not obstruct access to risers or other parts of the sprinkler system requiring inspection, testing, or maintenance, including risers.

11-38: QUARTERLY TESTING:

08-25/Table 5.1

Where provided, an automatic sprinkler system shall have a quarterly inspection and test. The water flow devices, valve supervisory devices, supervisory signal devices (except valve supervisory switches), hydraulic nameplate, and fire department connections shall be inspected quarterly. Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-39: SEMIANNUAL TESTING:

08-25/Table 5.1

Where provided, an automatic sprinkler system shall have a semi-annual test of valve supervisory devices and supervisory signal devices (except valve supervisory switches). Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-40: ANNUAL TESTING:

08-25/Table 5.1

Where provided, automatic sprinkler system shall have an annual inspection of buildings (prior to freezing weather), hanger/seismic bracing, pipes, fittings, sprinklers, and spare sprinklers, and an annual test of the main drain and antifreeze solution. Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-41: INTERNAL SPRINKLER AND PIPE INSPECTION:08-25/14.2.1
14.2.1.1, 14.2.1.2

An inspection of piping and branch line conditions shall be conducted every 5 years by opening a flushing connection at the end of one main and by removing a sprinkler toward the end of one branch line for the purpose of inspecting for the presence of foreign organic and inorganic material. Alternative nondestructive examination methods shall be permitted. Tubercles or slime, if found, shall be tested for indications of microbiologically influenced corrosion (MIC).

11-42: OTHER TESTING SPRINKLER:

08-25/Table 5.1

Where provided, automatic sprinkler systems shall have testing, inspection, and maintenance of pipe obstructions, gauges, sprinklers, and valves every five years, or as specified in Table 5.1. Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-43: FIRE WATCH REQUIRED: SPRINKLER:

06-101/9.7.6.1

Where a required automatic sprinkler system is out of service for less than four hours, an informal fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service. Where a required automatic sprinkler system is out of service for more than 4 hours in a 24-hour period, OSFM and the local jurisdiction shall be notified, and the building shall be evacuated or an approved fire watch shall be provided for all parties left unprotected by the shutdown until the sprinkler system has been returned to service.

11-44: STANDPIPE SYSTEMS MAINTAINED:

06-101/4.5.7

Where provided, standpipe systems shall be maintained and operable at all times.

NOTE: installed systems shall be maintained and operable at all times.

11-45: STANDPIPE PROTECTION:

08-25/Table 6.2.2

Caps shall be in place on all hose outlets.

11-46: HYDROSTATIC TESTING:

08-25/6.3.2, 6.3.2.2.1

Manual standpipe systems and automatic-dry standpipe systems, including piping in the fire department connection, shall have a hydrostatic test meeting the requirements of 2008-25/6.3.2 every 5 years. Documentation shall be available for review.

EXCEPTION: Manual wet standpipes that are part of a combined sprinkler/standpipe system shall not be required to be hydrostatically tested.

11-47: FIRE EXTINGUISHERS (PORTABLE):

07-10/6.1.2, 6.1.3.8

Portable fire extinguishers shall be located in light hazard occupancies. The number and location shall comply with NFPA 10, Chapter 6. Portable fire extinguishers shall be maintained in a fully charged and operable condition and shall be kept in their designated places at all times when they are not being used. Fire extinguishers having a gross weight not exceeding 40 lb. shall be installed so that the top of the fire extinguisher is not more than 5 ft. above the floor. Fire extinguishers having a gross weight greater than 40 lb. shall be installed so that the top of the fire extinguisher is not more than 42 inches above the floor. In no case shall the clearance between the bottom of the fire extinguisher and the floor be less than 4 in.

11-48: PORTABLE EXTINGUISHERS MAINTENANCE:

07-10/7.1.2.1, 7.2.1.2

Facility shall maintain monthly and annual service documentation on portable fire extinguishers for review by OSFM.

11-49: PROTECTION OF VERTICAL OPENINGS:

06-101/8.5.6.3 Penetrations for cables, cable trays, conduits, pipes, tubes, vents, wires, and similar items to accommodate electrical, mechanical, plumbing, and communications systems that pass through a wall, floor, or floor/ceiling assembly constructed as a smoke barrier, or through the ceiling membrane of the roof/ceiling of a smoke barrier assembly, shall be protected by a system or material capable of restricting the transfer of smoke.

11-50: EXIT ENCLOSURES:

06-101/7.1.3.2.2 An exit enclosure shall provide a continuous protected path of travel to an exit discharge.

11-51: EXIT ENCLOSURE OPENINGS:

06-101/7.1.3.2.1 Openings in exit enclosures shall be limited to doors from normally occupied spaces and corridors and doors for egress from the enclosure. Penetrations or communicating openings shall be limited.

11-52: STORAGE AND STAIRS:

06-101/7.2.2.5.3,
7.2.2.5.3.1, 7.2.2.5.3.2 Enclosed, usable spaces within exit enclosures shall be prohibited, including under stairs. Open space within the exit enclosure shall not be used for any purpose that has the potential to interfere with egress.

EXCEPTION: Enclosed, usable space shall be permitted under stairs, provided that the following criteria are met: 1) The space shall be separated from the stair enclosure by the same fire resistance as the exit enclosure, and 2) Entrance to the enclosed, usable space shall not be from within the stair enclosure.

11-53: HAZARDOUS ROOMS:

06-101/1.4, 8.7.1.1 Protection from any area having a degree of hazard greater than that normal to the general occupancy of the building or structure shall be provided by one of the following means: 1) Enclosing the area with a fire barrier without windows that has a 1-hour fire resistance rating in accordance with Section 8.3; 2) Protecting the area with automatic extinguishing systems in accordance with Section 9.7; 3) Applying both of the above where the hazard is severe or where otherwise specified by Chapter 12 through Chapter 42. This includes boiler/furnace rooms with total input rating greater than 200,000 Btu, trash rooms or chutes, storage rooms with combustible materials, workshops, rooms with kilns, laboratories, and combustible chemical storage. Doors to hazardous rooms shall be self- or automatic-closing.

11-54: BOILER CERTIFICATE:

KSA 44-924(b) A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's regardless of size.

11-55: COOKING EQUIPMENT SHALL BE CLEANED:

08-96/11.6 Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to remove combustible contaminants prior to surfaces becoming heavily contaminated with grease or oily sludge.

11-56: COOKING EQUIPMENT VENTED TO OUTSIDE:

08-96/4.1.1, 4.1.1.1, 7.1

Equipment shall be vented to the outside through an approved exhaust hood system.

EXCEPTION: Outside venting is not required if cooking equipment is listed in accordance with UL 197.

11-57: COOKING FILTERS:

08-96/6.1.3

Baffle-type filters are required. Mesh-type filters are not allowed.

11-58: SUPPRESSION SYSTEM:

08-96/10.1.2

Cooking equipment that produces grease-laden vapors and that might be a source of ignition of grease in the hood, grease removal device, or duct shall be protected by fire-extinguishing equipment.

11-59: UL 300 COMPLIANT:08-96/10.2.3, 10.2.3.1,
1.4.1, 1.4.2, 1.4.3

NEW BUILDING: Automatic fire-extinguishing systems shall comply with UL 300 or other equivalent standards and shall be installed in accordance with the requirements of the listing

EXISTING BUILDING: Automatic extinguishing systems that do not meet the UL 300 or equivalent standard must be replaced with a compliant system: 1) at the existing system's 6-year hydrostatic test, or 2) when the system is discharged, or 3) when modifications are made to the system, or 4) by no later than July 1, 2014.

11-60: MANUAL PULLS ACCESSIBLE:

08-96/10.5.1

A readily accessible means for manual activation shall be located between 42 inches and 48 inches above the floor, be accessible in the event of a fire, be located in a path of egress, and clearly identify the hazard protected.

11-61: KITCHEN HOOD FIRE EXTINGUISHER:

06-10/5.5.5

Fire extinguishers provided for the protection of cooking appliances that use combustible cooking media (vegetable or animal oils and fats) shall be listed and labeled for Class K fires.

11-62: AUTOMATIC FUEL SHUTOFFS:

08-96/10.4.1, 10.4.3

Upon activation of any fire-extinguishing system for a cooking operation, all sources of fuel and electrical power that produce heat to all equipment requiring protection by that system shall automatically shut off. Any gas appliance not requiring protection but located under the same ventilating equipment shall also automatically shut off upon activation of any extinguishing system.

11-63: SYSTEM SERVICING:KAR 22-10; 08-96/11.2.1,
11.2.4, 11.2.8

Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced semi-annually. Documentation shall be maintained on-site.

11-64: COMPRESSED GAS CYLINDERS:

KSA 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

11-65: GASOLINE-POWERED EQUIPMENT:

08-30/6.5.1; KSA 31-133 Gasoline-powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit-ways.

11-66: FLAMMABLE LIQUID STORAGE:

08-30/9.3.3.1, 9.6.2
KSA 31-133 Flammable liquid storage is prohibited in boiler and fuel-fired equipment rooms and exit-ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 10 gallons.

11-67: INTERIOR FINISH:

06-101/7.1.4.1
10.2.4.1, 10.3.6 Interior wall and ceiling finish materials in exit enclosures shall be Class A or Class B. Textile materials on walls or ceilings shall be Class A. Fire-retardant coatings shall be maintained to retain the effectiveness of the treatment under service conditions encountered in actual use.

11-68: COMBUSTIBLE DECORATIONS:

06-101/10.2.5.3 Bulletin boards, posters, and paper attached directly to the wall shall not exceed 20 percent of the aggregate wall area to which they are applied.

EXCEPTION: Fully-sprinkled education occupancies.

11-69: ELECTRICAL PANELS:

08-70/110.26(A)(1), 408.18 Energized main electrical switches, breakers, fuses, or distribution panels shall be enclosed with no access obstructions within 3 feet.

11-70: ELECTRICAL WIRING:

08-70/590.3(B)
590.4(H), 590.5 Wiring must comply with NFPA 70. Use of temporary wiring for non-temporary installations (greater than 90 days) is prohibited. If temporary wiring is used, it must be protected for such use. Flexible cords and cables shall be protected from accidental damage. Decorative lighting, including holiday lighting, must be listed.

RESIDENTIAL BOARD AND CARE-SMALL

RS-01: FIRE DRILLS:

06-101/32.7.3 (New)
33.7.3 (Existing)

Emergency egress and relocation drills shall be conducted not less than six times per year on a bimonthly basis, with not less than two drills conducted during the night when residents are sleeping. The drills shall involve the actual evacuation of all residents to an assembly point, and shall provide residents with experience in egressing through all exits and means of escape.

EXCEPTION: Residents who cannot meaningfully assist in their own evacuation or who have special health problems shall not be required to actively participate in the drills.

RS-02: WRITTEN EMERGENCY PROCEDURES:

06-101/32.7.1 (New)
33.7.1 (Existing)

Emergency plans shall be available to all personnel. This shall be a written plan for protecting all persons in the event of fire, for keeping persons in place, for evacuating persons to areas of refuge, and for evacuating persons from the building when necessary. The plan shall include staff response and fire protection procedures needed to ensure resident safety. All employees shall be instructed on their duties and responsibilities under the plan not less than every 2 months.

RS-03: SMOKING AREA:

06-101/32.7.4.2 (New)
33.7.4.2 (Existing)

Where smoking is permitted, noncombustible safety-type ashtrays or receptacles shall be provided in convenient locations.

RS-04: MEANS OF ESCAPE:

06-101/32.2.2 (New)
33.2.2 (Existing)

Designated means of escape shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or emergency.

RS-05: EXIT WIDTH:

06-101/32.2.2.5 (New)
33.2.2.5 (Existing)

Doors and paths of travel to a means of escape shall be not less than 28 inches (Existing) 32 inches (New). Bathroom doors shall be not less than 24 inches.

RS-06: PRIMARY MEANS OF ESCAPE (EXISTING):

06-101/33.2.2.1.1-33.2.2.1.5

Each normally occupied story of the facility shall have not less than two remotely located means of escape that do not involve using windows.

EXCEPTIONS: In prompt evacuation facilities, one means of escape shall be permitted to involve windows complying with 33.2.2.3.1, or in buildings protected throughout by an approved automatic sprinkler system and the facility has two means of escape.

RS-07: INTERIOR STAIRS (NEW):

06-101/32.2.2.4

Interior stairs used for a primary means of escape shall be enclosed with 1/2-hour fire barrier.

EXCEPTION 1: Stairs that connect a story at street level to only one other story shall be permitted to be open to the story that is not at street level.

EXCEPTION 2: 2-story building with an approved automatic sprinkler system

EXCEPTION 3: Previously approved by OSFM, interconnected smoke detectors at the top and bottom of stairs connecting not more than 1 story above or below the street level.

RS-08: INTERIOR STAIRS (EXISTING):

6-101/33.2.1.2.1.1, 33.2.2.4.6

Interior stairs used for a primary means of escape shall be enclosed with 1. 2-hour fire barrier.

EXCEPTION 1: Stairs that connect a story at street level to only one other story shall be permitted to be open to the story that is not at street level.

EXCEPTION 2: 2-story building with an approved automatic sprinkler system housing prompt evacuation residents with not more than 8 residents.

EXCEPTION 3: Previous approved by OSFM, interconnected smoke detectors at the top and bottom of stairs connecting not more than 1 story above or below the street level.

RS-09: SECONDARY MEANS OF EGRESS FROM SLEEPING ROOM:

6-101/32.2.2.3.1, 32.2.2.3.2(New)

33.2.2.3.1,

33.2.2.3.3 (Existing)

In addition to the primary route, each sleeping room shall have a second means of escape consisting of one of the following: A door, stairway, passage, or hall providing a way of unobstructed travel to the outside of the dwelling at street or ground level. A passage through an adjacent non-lockable space independent of the primary means of escape An outside window or door.

EXCEPTION: Facility is protected by an approved automatic sprinkler system.

RS-10: SLEEPING ROOM SEPARATION:

06-101/32.2.3.6.1(New)

33.2.3.6.1 (Existing)

Sleeping rooms shall be separated from corridors, living areas, and kitchens by walls with fire resistance ratings of not less than ½ hr.

RS-11: CORRIDOR DOORS:

06-101/32.2.3.6.4(New)

33.2.3.6.4 (Existing)

All corridor doors shall meet the following requirements: (1) Doors shall be provided with latches or other mechanisms suitable for keeping the doors closed. (2) No doors shall be arranged to prevent the occupant from closing the door. (3) Doors shall be self-closing or automatic-closing in buildings other than those protected throughout by an approved automatic sprinkler system.

RS-12: DOOR LOCKS:

06-101/32.2.2.5.5-32.2.2.5.5.2 (New)

33.2.2.5.5

33.2.2.5.5.2(Existing)

No door in any means of escape shall be locked against egress when the building is occupied.

EXCEPTION 1: Delayed-egress locks complying with 7.2.1.6.1 shall be permitted on exterior doors only.

EXCEPTION 2: Access-controlled egress locks complying with 7.2.1.6.2 shall be permitted.

RS-13: CLOSET AND BATHROOM DOORS:

06-101/32.2.2.5.3, 32.2.2.5.4 (New)
33.2.2.5.3,
33.2.2.5.4(Existing)

Every closet door latch shall be readily opened from the inside. Every bathroom doors shall be designed to allow opening from the outside during an emergency when locked.

RS-14: FIRE ALARM:

06-101/32.2.3.4.1(New)
33.2.3.4 (Existing)

A manual fire alarm system shall be provided.

EXCEPTION: (For Existing Facilities Only) Interconnected smoke alarms complying with RS16 and not less than one manual fire alarm box per floor arranged to continuously sound the smoke detectors are provided.

RS-15: SMOKE ALARMS (EXISTING):

06-101/33.2.3.4.3

Smoke alarms shall be powered from the building electrical system and, when activated, shall initiate an alarm that is audible in all sleeping areas. Smoke alarms shall be installed on all levels, including basements but excluding crawl spaces and attics. Additional smoke alarms shall be installed for living rooms, dens, day rooms, and similar spaces.

EXCEPTION: Fully sprinklered buildings with smoke detectors in each sleeping room.

RS-16: SMOKE ALARMS(NEW):

06-101/32.2.3.4, 9.6.2.9.2

Smoke alarms shall be powered from the building electrical system. Smoke alarms shall be installed on all levels, including basements but excluding crawl spaces and unfinished attics. Each sleeping room shall be provided with an approved smoke alarm.

R2-17: SPRINKLER SYSTEM(EXISTING):

06-101/33.2.3.5.3

All impractical evacuation capability facilities shall be protected throughout by an approved, supervised automatic sprinkler system.

RS-18: SPRINKLER SYSTEM (NEW):

06-101/32.2.3.5.1,32.2.3.5.2

All facilities shall be protected throughout by an approved automatic sprinkler system using quick response or residential sprinklers.

EXCEPTION: Sprinkler system not required in facilities serving eight or fewer residents when ALL occupants have the ability to move as a group to move reliably to a point of safety within 3 minutes.

New facility: A facility is considered to be "NEW" if one of the following is met:

- New building or portion of a new building used for residential board and care
- Additions made to, or newly used as, residential board and care occupancies
- Major alterations, modernizations, or renovations of existing board and care occupancies
- Change of occupancy inside an existing building.

Existing facility: A facility is considered to be "EXISTING" if the building or portion thereof is/was occupied as a residential board and care occupancy prior to 01/01/2011.

RESIDENTIAL BOARD/CARE (LARGE)

NFPA 2006

A building or portion thereof that is used for lodging and boarding of four or more residents, not related by blood or marriage to owners or operators, for the purpose of providing personal care services.

GENERAL CHECKLIST

11-01: FIRE PROTECTION CHANGES IN FACILITIES:

KSA 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

11-02: BUILDING STRUCTURAL SOUNDNESS:

KSA 31-133(a); 06-101/4.2.2 If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

11-03: DANGEROUS CONDITIONS:

KSA 31-133 Situations requiring immediate actions and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the OSFM Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

11-04: EXITING DURING CONSTRUCTION:

06-101/4.6.10.1 Buildings, or portions of buildings, shall be permitted to be occupied during construction, repair, alterations, or additions only where required means of egress and required fire protection features are in place and continuously maintained for the portion occupied or where alternative life safety measures acceptable to OSFM are in place.

11-05: NUMBER OF EXITS:

06-101/7.4.1.2 The number of means of egress from any story or portions thereof, other than for existing buildings as permitted elsewhere in LSC 101, shall be not less than three for occupant loads more than 500 but not more than 1000, and not less than four for occupant loads more than 1000.

11-06: EXIT SIGNS:

06-101/7.10.1.2, 7.10.1.5.1 Exits, other than main exterior exit doors that obviously and clearly are identifiable as exits, shall be marked by an approved sign that is readily visible from any direction of exit access. Access to exits shall be marked by approved, readily visible signs in all cases where the exit or way to reach the exit is not readily apparent to the occupants.

11-07: ILLUMINATION OF PATH OF EGRESS:

06-101/7.8.1.2, 7.8.1.2.2 Illumination of means of egress shall be continuous during the time that the conditions of occupancy require that the means of egress be available for use. Automatic, motion sensor-type lighting switches shall be permitted within the means of egress, provided that the switch controllers are equipped for fail-safe operation, the illumination timers are set for a minimum 15-minute duration, and the motion sensor is activated by any occupant movement in the area served by the lighting units.

11-08: EXIT ACCESS ARRANGEMENT:

06-101/7.5.2.1

Access to an exit shall not be through kitchens, storerooms, restrooms, workrooms, closets, bedrooms or similar spaces, or other rooms or spaces subject to locking.

11-09: EXIT ACCESS AND OBSTRUCTIONS:

06-101/7.1.10.1

7.1.10.2.2, 7.7

Means of egress shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency. No obstruction by railings, barriers, or gates shall divide the means of egress into sections appurtenant to individual rooms, apartments, or other occupied spaces. Railings or other barriers can be installed to protect the path of travel against encroachment from furniture or other movable objects.

11-10: EXIT VISIBILITY:

06-101/7.1.10.2.1, 7.1.10.2.3

7.5.2.2.1, 7.5.2.2.2

No furnishings, decorations, or other objects shall obstruct exits, access thereto, egress there from, or visibility thereof. Mirrors shall not be placed on exit doors. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of egress. Exit access and exit doors shall be designed and arranged to be clearly recognizable. Hangings or draperies shall not be placed over exit doors or located so that they conceal or obscure any exit.

EXCEPTION: Section 7.5.2.2.2.

11-11: DOOR SWING:

06-101/7.2.1.4.2

Doors required to be of the side-hinged or pivoted-swinging type shall swing in the direction of egress travel where serving a room or area with an occupant load of 50 or more.

EXCEPTION: Doors in horizontal exits shall not be required to swing in the direction of egress travel for new horizontal exits or for existing horizontal exits doors in corridors not more than 6 ft. wide

11-12: EXIT DOORS ADDITIONAL LOCKS (WITH PANIC HARDWARE):

06-101/7.2.1.5.11, 7.2.1.6

Devices shall not be installed in connection with any door on which panic hardware or fire exit hardware is required where such devices prevent or are intended to prevent the free use of the door for purposes of egress.

EXCEPTION: Delayed-egress locks and access-controlled egress doors in approved locations.

11-13: EXIT DOOR (WITHOUT PANIC HARDWARE):

06-101/7.2.1.5.1,

7.2.1.5.2, 7.2.1.5.3

Locks, if provided, shall not require the use of a key, a tool, or special knowledge or effort for operation from the egress side.

EXCEPTION: Where otherwise provided for in specific occupancy chapters.

11-14: RESTRICTED EXITS:

06-101/7.1.9, 18.2.2.2.4,

18.2.2.2.5, 19.2.2.2.4,

19.2.2.2.5

Any device or alarm installed to restrict the improper use of a means of egress shall be designed and installed so that it cannot, even in case of failure, impede or prevent emergency use of such means of egress.

EXCEPTIONS: 1) Healthcare facilities (for clinical needs only); 2) Detention facilities; and 3) Section 7.2.1.6.

11-15: OVERHEAD ROLLING FIRE DOORS:

06-101/7.1.10.1, 7.2.1.4.1.9 Overhead rolling fire doors across corridors or exit paths shall be secured open to prevent operation.

11-16: DOOR LANDINGS:

06-101/7.2.1.3.2 The elevation of the floor surfaces shall be maintained on both sides of the doorway for a distance not less than the width of the widest leaf.

11-17: DOORS AND ELEVATION CHANGE:

06-101/7.2.1.3.1
7.2.1.3.5, 7.2.1.3.6 The elevation of the floor surfaces on both sides of a door shall not vary by more than 1/2 in.

EXCEPTIONS: 1) In existing buildings, where the door discharges to the outside or to an exterior balcony or exterior exit access, the floor level outside the door shall be permitted to be one step lower than that of the inside, but shall be not more than 8 in. lower. 2) In existing buildings, a door at the top of a stair shall be permitted to open directly at a stair, provided that the door does not swing over the stair and that the door serves an area with an occupant load of fewer than 50 persons.

11-18: EXTERIOR STAIR PROTECTION:

06-101/7.2.2.6.3.1 Outside stairs shall be separated from the interior of the building by construction with the fire resistance rating required for enclosed stairs with fixed or self-closing opening protective.

EXCEPTIONS: Limited exceptions found in 7.2.2.6.3.1.

11-19: EXTERIOR STAIR SUPPORT:

KSA 31-133(a); 06-101/7.2.8.6.2 Exterior stair support shall be either: a) structurally supported to the ground; or b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

11-20: FIRE ESCAPE LADDERS NOT PERMITTED:

06-101/7.2.8.1.2.3,
7.2.8.6.2, Table 7.2.8.4.1(a) New fire escape stairs, when approved, shall not incorporate ladders or access windows, regardless of occupancy classification or occupant load served. Existing fire escape ladders are acceptable only if previously approved by the AHJ and to serve no more than 5 persons.

11-21: TESTING DOCUMENTATION:

06-101/9.4.6, 7.10.9
9.8, 9.3.1, 7.2.3.13 All testing required by 06-101 of elevators, exit signs, fire protection system, smoke control systems, and smoke proof enclosures must be documented and will be subject to review.

11-22: MONTHLY TESTS OF EMERGENCY LIGHTING AND EXITS SIGNS:

06-101/7.10.9,
7.9.3.1, 7.9.3.1.1.

Functional testing of required emergency lighting systems shall be conducted at 30-day intervals for not less than 30 seconds. Exit signs shall be visually inspected for operation at 30 day intervals. Written records of visual inspections and tests shall be kept by the owner for review.

11-23: ANNUAL TESTS OF EMERGENCY LIGHTING AND EXIT SIGNS:

06-101/7.9.3.1, 7.9.3.1.1

Functional testing of required emergency lighting systems shall be conducted annually for not less than 1 1/2 hours if the emergency lighting system is battery powered. Written records of visual inspections and tests shall be kept by the owner for review.

11-24: ALTERNATIVE EMERGENCY LIGHT TESTING:

06-101/7.9.3.1.2,
7.9.3.1.3, 9.1.3

Computer-based, self-testing, or self-diagnostic battery-operated emergency lighting equipment shall be permitted if the testing schedule and documentation complies with 7.9.3.1.2 or 7.9.3.1.3.

11-25: EMERGENCY GENERATOR TESTING:

05-110/8.3, 8.4

When provided, written documentation shall be maintained of a) emergency generator weekly inspection, b) once a month load tests of at least 30 minute duration, c) exercising, and d) any repairs including date, personnel, notation of any unsatisfactory condition and the corrective action taken.

EXCEPTION: This does not apply to portable generators.

11-26: ELEVATOR TESTING:

06-101/9.4.6

All elevators equipped with fire fighters' emergency operations shall have a documented monthly operation test.

11-27: FIRE ALARM MAINTAINED:

06-101/4.5.7

Where required, a fire alarm or automatic detection system shall be operable and maintained at all times.

NOTE: installed systems shall be maintained and operable at all times.

11-28: POWER-ON INDICATOR:

07-72/4.4.7.3.1, 4.4.3.5.5

All primary and secondary power supplies to the alarm system shall be monitored for the presence of voltage at the point of connection to the system. For exceptions, see 07-72/4.4.7.3. Failure of either supply shall result in a trouble signal, which must be located in a constantly attended location.

11-29: SHALL BE AUDIBLE:

06-101/9.6.3.7

Audible alarm notification appliances shall be distributed as to be effectively heard above the average ambient sound level that exists under normal conditions of occupancy.

11-30: MANUAL PULL STATIONS:

06-101/9.6.2.3;
07-72/5.13.4, 5.13.6

Where fire alarm systems are required, manual pull stations shall be provided in the natural exit access path near each required exit from an area. The operable part of each manual fire alarm box shall be not less than 3.5 ft. and not more than 4.5 ft. above floor level. Manual fire alarm boxes shall be located within 5 ft. of the exit doorway opening at each exit on each floor.

11-31: FIRE ALARM/DETECTION SYSTEM TESTING:

06-101/9.6.1.5,
07-72/Table 10.4.4

Where required, a fire alarm or automatic detection system shall have an approved maintenance and testing program complying with the applicable requirements of NFPA 80 (National Electrical Code) and NFPA 72 (National Fire Alarm Code).

NOTE: installed systems shall be maintained and operable at all times.

11-32: SENSITIVITY TESTING:

07-72/10.4.4.2,
10.4.4.2.1-10.4.4.2.6

Sensitivity testing of smoke detectors is required for detectors connected to fire alarm systems, and testing shall be done in accordance with NFPA 72: a) Sensitivity shall be checked within 1 year after installation; and b) Sensitivity shall be checked every alternate year thereafter.

EXCEPTION: After the second required calibration test, if sensitivity tests indicate that the device has remained within its listed and marked sensitivity range, the length of time between calibration tests shall be permitted to be extended to a maximum of five years.

NOTE: if detectors are added to the system, the timing of sensitivity testing starts over for that specific zone.

11-33: FIRE WATCH REQUIRED: FIRE ALARM:

06-101/9.6.1.6

Where a required fire alarm system is out of service for less than four hours, an informal fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service. Where a required fire alarm system is out of service for more than 4 hours in a 24-hour period, OSFM and the local jurisdiction shall be notified and the building shall be evacuated or an approved formal fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service.

11-34: SPRINKLER MAINTAINED:

06-101/4.5.7, 9.7

Where required, an automatic sprinkler system shall be operable and maintained at all times.

NOTE: installed systems shall be maintained and operable at all times

11-35: CONTROL VALVES SUPERVISED:

07-13/8.16.1.1.2.1

Valves on connections to water supplies, sectional control and isolation valves, and other valves in supply pipes to sprinklers and other fixed water-based fire suppression systems shall be supervised by one of the following methods:

- 1) Central station, proprietary, or remote station signaling service,
- 2) Local signaling service that will cause the sounding of an audible signal at a constantly attended point,
- 3) Valves locked in the correct position;
- 4) Valves located within fenced enclosures under the control of the owner, sealed in the open position, and inspected weekly as part of an approved procedure.

11-36: STORAGE IN SPRINKLER-PROTECTED AREA:

07-13/8.5.6.1

Storage of all materials must be kept at least 18" below the deflector of the sprinkler head.

See NFPA 13 for limited exceptions.

11-37: STORAGE BY SPRINKLER RISERS:

08-25/4.1.1, 9.7.5

Storage of all materials shall not obstruct access to risers or other parts of the sprinkler system requiring inspection, testing, or maintenance, including risers.

11-38: QUARTERLY TESTING:

08-25/Table 5.1

Where provided, an automatic sprinkler system shall have a quarterly inspection and test. The water-flow devices, valve supervisory devices, supervisory signal devices (except valve supervisory switches), hydraulic nameplate, and fire department connections shall be inspected quarterly. Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-39: SEMIANNUAL TESTING:

08-25/Table 5.1

Where provided, an automatic sprinkler system shall have a semi-annual test of valve supervisory devices and supervisory signal devices (except valve supervisory switches.) Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-40: ANNUAL TESTING:

08-25/Table 5.1

Where provided, automatic sprinkler system shall have an annual inspection of buildings (prior to freezing weather), hanger/seismic bracing, pipes, fittings, sprinklers, and spare sprinklers, and an annual test of the main drain and antifreeze solution. Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-41: INTERNAL SPRINKLER AND PIPE INSPECTION:08-25/14.2.1
14.2.1.1, 14.2.1.2

An inspection of piping and branch line conditions shall be conducted every 5 years by opening a flushing connection at the end of one main and by removing a sprinkler toward the end of one branch line for the purpose of inspecting for the presence of foreign organic and inorganic material. Alternative nondestructive examination methods shall be permitted. Tubercles or slime, if found, shall be tested for indications of microbiologically influenced corrosion (MIC).

11-42: OTHER TESTING SPRINKLER:

08-25/Table 5.1

Where provided, automatic sprinkler systems shall have testing, inspection, and maintenance of pipe obstructions, gauges, sprinklers, and valves every five years, or as specified in Table 5.1. Documentation of inspections and testing will be maintained by the owner in a central location for all buildings and available for review.

11-43: FIRE WATCH REQUIRED: SPRINKLER:

06-101/9.7.6.1

Where a required automatic sprinkler system is out of service for less than four hours, an informal fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service. Where a required automatic sprinkler system is out of service for more than 4 hours in a 24-hour period, OSFM and the local jurisdiction shall be notified, and the building shall be evacuated or an approved fire watch shall be provided for all parties left unprotected by the shutdown until the sprinkler system has been returned to service.

11-44: STANDPIPE SYSTEMS MAINTAINED:

06-101/4.5.7 Where provided, standpipe systems shall be maintained and operable at all times.

NOTE: installed systems shall be maintained and operable at all times.

11-45: STANDPIPE PROTECTION:

08-25/Table 6.2.2 Caps shall be in place on all hose outlets.

11-46: HYDROSTATIC TESTING:

08-25/6.3.2, 6.3.2.2.1 Manual standpipe systems and automatic-dry standpipe systems, including piping in the fire department connection, shall have a hydrostatic test meeting the requirements of 2008-25/6.3.2 every 5 years. Documentation shall be available for review.

EXCEPTION: Manual wet standpipes that are part of a combined sprinkler/standpipe system shall not be required to be hydrostatically tested.

11-47: FIRE EXTINGUISHERS (PORTABLE):

07-10/6.1.2, 6.1.3.8 Portable fire extinguishers shall be located in light hazard occupancies. The number and location shall comply with NFPA 10, Chapter 6. Portable fire extinguishers shall be maintained in a fully charged and operable condition and shall be kept in their designated places at all times when they are not being used. Fire extinguishers having a gross weight not exceeding 40 lb. shall be installed so that the top of the fire extinguisher is not more than 5 ft. above the floor. Fire extinguishers having a gross weight greater than 40 lb. shall be installed so that the top of the fire extinguisher is not more than 42 inches above the floor. In no case shall the clearance between the bottom of the fire extinguisher and the floor be less than 4 in.

11-48: PORTABLE EXTINGUISHERS MAINTENANCE:

07-10/7.1.2.1, 7.2.1.2 Facility shall maintain monthly and annual service documentation on portable fire extinguishers for review by OSFM.

11-49: PROTECTION OF VERTICAL OPENINGS:

06-101/8.5.6.3 Penetrations for cables, cable trays, conduits, pipes, tubes, vents, wires, and similar items to accommodate electrical, mechanical, plumbing, and communications systems that pass through a wall, floor, or floor/ceiling assembly constructed as a smoke barrier, or through the ceiling membrane of the roof/ceiling of a smoke barrier assembly, shall be protected by a system or material capable of restricting the transfer of smoke.

11-50: EXIT ENCLOSURES:

06-101/7.1.3.2.2 An exit enclosure shall provide a continuous protected path of travel to an exit discharge.

11-51: EXIT ENCLOSURE OPENINGS:

06-101/7.1.3.2.1 Openings in exit enclosures shall be limited to doors from normally occupied spaces and corridors and doors for egress from the enclosure. Penetrations or communicating openings shall be limited.

11-52: STORAGE AND STAIRS:

06-101/7.2.2.5.3,
7.2.2.5.3.1, 7.2.2.5.3.2

Enclosed, usable spaces within exit enclosures shall be prohibited, including under stairs. Open space within the exit enclosure shall not be used for any purpose that has the potential to interfere with egress.

EXCEPTION: Enclosed, usable space shall be permitted under stairs, provided that the following criteria are met: 1) The space shall be separated from the stair enclosure by the same fire resistance as the exit enclosure, and 2) Entrance to the enclosed, usable space shall not be from within the stair enclosure.

11-53: HAZARDOUS ROOMS:

06-101/1.4, 8.7.1.1

Protection from any area having a degree of hazard greater than that normal to the general occupancy of the building or structure shall be provided by one of the following means: 1) Enclosing the area with a fire barrier without windows that has a 1-hour fire resistance rating in accordance with Section 8.3; 2) Protecting the area with automatic extinguishing systems in accordance with Section 9.7; 3) Applying both of the above where the hazard is severe or where otherwise specified by Chapter 12 through Chapter 42. This includes boiler/furnace rooms with total input rating greater than 200,000 Btu, trash rooms or chutes, storage rooms with combustible materials, workshops, rooms with kilns, laboratories, and combustible chemical storage. Doors to hazardous rooms shall be self- or automatic-closing.

11-54: BOILER CERTIFICATE:

KSA 44-924(b)

A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's regardless of size.

11-55: COOKING EQUIPMENT SHALL BE CLEANED:

08-96/11.6

Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to remove combustible contaminants prior to surfaces becoming heavily contaminated with grease or oily sludge.

11-56: COOKING EQUIPMENT VENTED TO OUTSIDE:

08-96/4.1.1, 4.1.1.1, 7.1

Equipment shall be vented to the outside through an approved exhaust hood system.

EXCEPTION: Outside venting is not required if cooking equipment is listed in accordance with UL 197.

11-57: COOKING FILTERS:

08-96/6.1.3

Baffle-type filters are required. Mesh-type filters are not allowed.

11-58: SUPPRESSION SYSTEM:

08-96/10.1.2

Cooking equipment that produces grease-laden vapors and that might be a source of ignition of grease in the hood, grease removal device, or duct shall be protected by fire-extinguishing equipment.

11-59: UL 300 COMPLIANT:

08-96/10.2.3, 10.2.3.1,
1.4.1, 1.4.2, 1.4.3

NEW BUILDING: Automatic fire-extinguishing systems shall comply with UL 300 or other equivalent standards and shall be installed in accordance with the requirements of the listing.

EXISTING BUILDING: Automatic extinguishing systems that do not meet the UL 300 or equivalent standard must be replaced with a compliant system:

- 1) at the existing system's 6-year hydrostatic test, or
- 2) when the system is discharged, or
- 3) when modifications are made to the system, or
- 4) by no later than July 1, 2014.

11-60: MANUAL PULLS ACCESSIBLE:

08-96/10.5.1

A readily accessible means for manual activation shall be located between 42 inches and 48 inches above the floor, be accessible in the event of a fire, be located in a path of egress, and clearly identify the hazard protected.

11-61: KITCHEN HOOD FIRE EXTINGUISHER:

06-10/5.5.5

Fire extinguishers provided for the protection of cooking appliances that use combustible cooking media (vegetable or animal oils and fats) shall be listed and labeled for Class K fires.

11-62: AUTOMATIC FUEL SHUTOFFS:

08-96/10.4.1, 10.4.3

Upon activation of any fire-extinguishing system for a cooking operation, all sources of fuel and electrical power that produce heat to all equipment requiring protection by that system shall automatically shut off. Any gas appliance not requiring protection but located under the same ventilating equipment shall also automatically shut off upon activation of any extinguishing system.

11-63: SYSTEM SERVICING:

KAR 22-10; 08-96/11.2.1,
11.2.4, 11.2.8

Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by OSFM. Fusible links shall be replaced semi-annually. Documentation shall be maintained on-site.

11-64: COMPRESSED GAS CYLINDERS:

KSA 31-133

Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

11-65: GASOLINE-POWERED EQUIPMENT:

08-30/6.5.1; KSA 31-133

Gasoline-powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit-ways.

11-66: FLAMMABLE LIQUID STORAGE:

08-30/9.3.3.1, 9.6.2
KSA 31-133

Flammable liquid storage is prohibited in boiler and fuel-fired equipment rooms and exit-ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 10 gallons.

11-67: INTERIOR FINISH:

06-101/7.1.4.1
10.2.4.1, 10.3.6

Interior wall and ceiling finish materials in exit enclosures shall be Class A or Class B. Textile materials on walls or ceilings shall be Class A. Fire-retardant coatings shall be maintained to retain the effectiveness of the treatment under service conditions encountered in actual use.

11-68: COMBUSTIBLE DECORATIONS:

06-101/10.2.5.3

Bulletin boards, posters, and paper attached directly to the wall shall not exceed 20 percent of the aggregate wall area to which they are applied.

EXCEPTION: Fully-sprinkled education occupancies.

11-69: ELECTRICAL PANELS:

08-70/110.26(A)(1), 408.18

Energized main electrical switches, breakers, fuses, or distribution panels shall be enclosed with no access obstructions within 3 feet.

11-70: ELECTRICAL WIRING:

08-70/590.3(B)
590.4(H), 590.5

Wiring must comply with NFPA 70. Use of temporary wiring for non-temporary installations (greater than 90 days) is prohibited. If temporary wiring is used, it must be protected for such use. Flexible cords and cables shall be protected from accidental damage. Decorative lighting, including holiday lighting, must be listed.

RESIDENTIAL BOARD AND CARE-LARGE**RL-01: FIRE DRILLS:**

06-101/32.7.3 (New)
33.7.3 (Existing)

Emergency egress and relocation drills shall be conducted not less than six times per year on a bimonthly basis, with not less than two drills conducted during the night when residents are sleeping. The drills shall involve the actual evacuation of all residents to an assembly point, and shall provide residents with experience in egressing through all exits and means of escape.

EXCEPTION: Residents who cannot meaningfully assist in their own evacuation or who have special health problems shall not be required to actively participate in the drill.

RL-02: WRITTEN EMERGENCY PROCEDURES:

06-101/32.7.1 (New)
33.7.1 (Existing)

Emergency plans shall be available to all personnel. This shall be a written plan for protecting all persons in the event of fire, for keeping persons in place, for evacuating persons to areas of refuge, and for evacuating persons from the building when necessary. The plan shall include staff response and fire protection procedures needed to ensure resident safety. All employees shall be instructed on their duties and responsibilities under the plan not less than every 2 months.

RL-03: SMOKING AREA:

06-101/32.7.4.2 (New)
33.7.4.2 (Existing)

Where smoking is permitted, noncombustible safety-type ashtrays or receptacles shall be provided in convenient locations.

RL-04: SLEEPING ROOM SEPARATION:

06-101/32.2.3.6.6 (New)
33.2.3.6.6 (Existing)

Sleeping rooms shall be separated from corridors, living areas, and kitchens by walls with fire resistance ratings of not less than ½ hr.

RL-05: CORRIDOR DOORS:

06-101/32.3.3.6.4 (New)
33.3.3.6 (Existing)

In new facilities, all corridor doors shall be constructed to resist the passage of smoke. In existing facilities that are not provided with a sprinkler system, doors shall be 20 min. rated or 1 ¾ in solid bonded wood core doors and shall be self/automatic closing.

RL-06: DOOR LOCKS (EXISTING):

06-101/33.3.2.2.2

No door in any means of escape shall be locked against egress when the building is occupied.

EXCEPTION 1: Delayed-egress locks complying with 7.2.1.6.1 shall be permitted, provided not more than one device exists in a means of egress.

EXCEPTION 2: Access-controlled egress locks complying with 7.2.1.6.2 shall be permitted.

RL-07: DOOR LOCKS (NEW):

06-101/32.3.2.2.2

No door in any means of escape shall be equipped with a lock or latch that requires the use of a tool or key from the egress side. Where locks other than those allowed in exception 1 and 2 are permitted, adequate provisions shall be in place to rapidly remove all occupants such as remote control of locks, keys carried by all staff at all times. Only one locking device is allowed on any door.

EXCEPTION 1: Delayed-egress locks complying with 7.2.1.6.1 shall be permitted, provided not more than one device exists in a means of egress.

EXCEPTION 2: Access-controlled egress locks complying with 7.2.1.6.2 shall be permitted.

RL-08: CORRIDOR WIDTH (EXISTING):

06-101/33.3.2.3.3, 33.3.2.3.4

The width of corridors shall not be less than 44 inches. Corridors serving an occupant load fewer than 50 shall not be less than 36 inches.

RL-09: CORRIDOR WIDTH (NEW):

06-101/32.3.2.3.3

The width of corridors shall be sufficient for the occupant load served but shall be not less than 60 inches.

RL-10: MAX. TRAVEL DISTANCE:

06-101/32.3.2.6 (New)
33.3.2.6 (Existing)

Travel distance from the corridor door of any room to the nearest exit shall not exceed the following: Existing Non-Sprinklered: 100ft, Existing Sprinklered: 200ft, New: 250ft

RL-11: EMERGENCY LIGHTING (EXISTING):

06-101/33.3.2.9

Emergency lighting shall be provided in all buildings with more than 25 rooms, unless each sleeping room has a direct exit to the outside of the building at ground level.

RL-12: EMERGENCY LIGHTING (NEW):

06-101/32.3.2.9 Emergency lighting shall be provided, unless each sleeping room has a direct exit to the outside at ground level.

RL-13: HAZARDOUS ROOMS:

06-101/32.3.3.2.1-32.3.3.2.2 (New)
33.3.3.2.2 (Existing) Hazardous areas shall be separated from other parts of the building by: 1-hour fire resistance rated construction and self-closing fire doors, or area shall be equipped with automatic fire extinguishing systems: Includes but is not limited to: Boiler and heater rooms, Laundries, Repair shops, Rooms or spaces used for storage of combustible supplies and equipment in quantities deemed hazardous by the authority having jurisdiction.

RL-14: FIRE ALARM SYSTEM:

06-101/32.3.3.4.1 (New)
33.3.3.4.1 (Existing) A fire alarm system shall be provided.

EXCEPTION: (For Existing Only) Each sleeping room has an exterior exit access and the building is not more than 3 stories in height.

RL-15: OCCUPANT NOTIFICATION:

06-101/32.3.3.4.4 (New)
33.3.3.4.4 (Existing) Notification shall be provided automatically without delay.

RL-16: FIRE DEPT. NOTIFICATION (EXISTING):

06-101/33.3.3.4.6 (Existing) In case of a fire, provisions shall be made for the immediate notification of the public fire department, by either telephone or other means, or where there is no public fire department, this notification shall be made to the private fire brigade.

RL-17: FIRE DEPT. NOTIFICATION (NEW):

06-101/32.3.3.4.6 Emergency forces notification shall meet the following requirements: 1.) Fire department notification shall be accomplished in accordance with 9.6.4, 2.) Smoke detection devices or smoke detection systems shall be permitted to initiate a positive alarm sequence for not more than 120 seconds.

RL18: SMOKE DETECTION SYSTEM (EXISTING):

06-101/33.3.3.4.8 All living areas and all corridors shall be provided with smoke detectors that comply with NFPA 72 and are arranged to initiate an alarm that is audible in all sleeping areas.

EXCEPTION: Not required in living areas in facilities protected throughout by an approved automatic sprinkler system.

RL-19: SMOKE DETECTION SYSTEM (NEW):

6-101/32.3.3.4.8.1 Corridors and spaces open to the corridors shall be provided with smoke detectors that comply with NFPA 72 and are arranged to initiate an alarm that is audible in all sleeping areas.

RL-20: SLEEPING ROOM SMOKE DETECTION (EXISTING):

06-101/33.3.3.4.7 Each sleeping room shall have an approved smoke alarm that is powered by the building electrical system.

EXCEPTION 1: Existing battery-powered smoke alarms where previously accepted by OSFM and documented shall be allowed as long as the facility continuously maintains testing, maintenance, and battery replacement.
EXCEPTION 2: Sleeping room smoke alarms shall not be required in facilities having an existing corridor smoke detection system that is connected to the building fire alarm system.

RL-21: SLEEPING ROOM SMOKE DETECTION (NEW):

06-101/32.3.3.4.7 (NEW) Approved smoke alarms, powered by the building electrical, shall be installed inside every sleeping room, outside every sleeping area in the immediate vicinity of the bedrooms, and on all levels with a resident unit.

RL-22: SPRINKLER SYSTEM (EXISTING):

06-101/33.3.1.2.2 Impractical evacuation facilities shall meet the requirements for limited care facilities. Buildings containing hospitals or limited care facilities shall be protected throughout by an approved, supervised automatic sprinkler system.

RL-23: SPRINKLER SYSTEM (NEW):

06-101/32.3.3.5.1 All facilities shall be protected throughout by an approved automatic sprinkler system in accordance with 9.7.1.1(1) using quick response or residential sprinklers.

RL-24: SMOKE COMPARTMENT (EXISTING):

06-101/33.3.3.7, 33.3.3.7.2 Every sleeping room floor shall be divided into not less than two smoke compartments of approximately the same size, with smoke barriers. Smoke dampers shall not be required.

EXCEPTION 1: Buildings protected throughout by an approved automatic sprinkler system.

EXCEPTION 2: Each sleeping room is provided with exterior exit access,

EXCEPTION 3: Corridor length on each floor is not more than 150 ft.

RL-25: SMOKE COMPARTMENT (NEW):

06-101/32.3.3.7 Every story shall be divided into not less than two smoke compartments. Each smoke compartment shall have an area not exceeding 22,500sq ft. Travel distance from any point to reach a door in the smoke barrier shall not exceed 200ft.

EXCEPTION: Not required on stories that do not contain a board and care occupancy and are separated from the board and care occupancy by a fire barrier.

New facility: A facility is considered to be "NEW" if one of the following is met:

- New building or portion of a new building used for residential board and care
- Additions made to, or newly used as, residential board and care occupancies
- Major alterations, modernizations, or renovations of existing board and care occupancies
- Change of occupancy inside an existing building.

Existing facility: A facility is considered to be "EXISTING" if the building or portion thereof is/was occupied as a residential board and care occupancy prior to 01/01/2011.

SCHOOL/PRESCHOOL

IFC 2006

Educational Group E occupancy includes, among others, the use of a building or structure, or a portion thereof, by six or more persons at any one time for educational purposes through the 12th grade. Religious educational rooms and religious auditoriums, which are accessory to places of religious worship in accordance with Section 508.3.1 and have occupant loads of less than 100, shall be classified as A-3occupancies

EXITS

A: TEMPORARY EGRESS:

- 1001.2 It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

B: NUMBER OF EXITS:

- 1015.1 TBL Two exits or exit access doorways from any space shall be provided when the occupant load is 50 or more than the values.

C: PANIC HARDWARE REQUIRED:

- 1008.1.9 Each door in a means of egress having an occupant load of 50 or more shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

D: PANIC HARDWARE OPERATION:

- 1008.1 Where panic hardware is installed it shall unlatch with a maximum of 15 lbs. force applied to the panic bar. The door shall be set in motion when subjected to a 30-pound force applied to the latch side of the door.

E: FLUSH OR SURFACE BOLTS:

- 1008.1.4 Manually operated flush bolts or surface bolts on exit doors are not permitted.

F: CONTINUOUS EXITS:

- 1008.1.8.4 Exits shall be continuous from the point of entry into the exit to the exit discharge.

G: EXTERIOR EXITS:

- 1018.2.2 Exterior exit doors shall lead directly to the exit discharge or the public way.

H: DOOR SWING:

- 1008.1.2 Exit doors shall swing in the direction of exit travel when serving an occupant load of 50 or more.

I: NORMAL ILLUMINATION:

- 1006.1 The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

J-L: EXIT SIGNS:

- 1011.1 Exit signs are required in rooms or areas which require two or more exits. Main exterior exit door sign may be exempt. Exit sign placement shall be such that no point in a corridor is more than 100 feet or the listed viewing distance, whichever is less from the nearest visible exit sign. Exit signs shall be internally or externally illuminated at all times.

M: EXIT OBSTRUCTIONS:

- 1003.6 Obstruction to exits shall not be placed in the required width and exits shall not be obstructed in any manner.

N-P: EGRESS WIDTH:

1003.6, 1008.1.1, 1017.2

The required capacity of mean of egress shall not be diminished (reduced) along the path of egress travel. Doorways shall not be less than 32 inches in clear width. In Group E occupancies with a corridor having a required capacity of 100 or more, the minimum corridor width is 72 inches.

Q: EMERGENCY LIGHTS:

1006.3

In the event of a power supply failure, an emergency system shall automatically illuminate all aisles and unenclosed egress stairways, corridors, exit enclosures, exit passageways, and exterior landings where two exits are required. Emergency power supply shall provide power for a minimum of 90 minutes. Equipment shall be tested for 30 seconds monthly and 90 minutes annually.

R: ACCESS CONTROL DOOR LOCKS:

1008.1.3.4

Access-controlled entrance/egress doors are permitted. The system must be approved. The doors shall be arranged to unlock by a signal from or loss of power to the motion sensor. There should be a manual unlocking device (button) located 40-48 inches above the floor within 5 feet of the secured doors, with a sign that reads "PUSH TO EXIT." Activation of the fire alarm or automatic sprinklers shall unlock the doors. Entrance doors shall not be secured from the egress side during periods that the building is open to the general public.

FIRE PROTECTION SYSTEMS

A-H: FIRE EXTINGUISHER:

- 906.1 1x2A per 6000 sq. ft. in light hazard. 1x2A per 3000 sq. ft. in ordinary hazard. Group E with quick-response sprinklers, fire extinguishers required only in special-hazard areas. Max. travel distance to a fire extinguisher is 75 ft. Fire extinguishers shall be mounted, conspicuously located, unobstructed, and available for immediate use. If visual obstruction cannot be avoided, signs shall be provided. Height Requirements: <40lbs - Not more than 5ft >40lbs -Not more than 3.5ft and not less than 4in.

I-K: COMMERCIAL COOKING TESTING & MAINT:

- 906.1, 904.11.6 Portable fire extinguisher to be installed within 30 feet of commercial cooking equipment. Automatic fire extinguishing systems of commercial cooking equipment shall be serviced at least every 6 months and after activation of the system. Fusible link and automatic sprinkler heads with fusible links shall be replaced at least annually.

Records to be maintained.

L-M: SUPERVISED VALVES:

- 903.4, 903.2.2 All valves controlling the water supply and water-flow switches on all sprinkler systems shall be electronically supervised when system has 20 or more sprinkler heads. An automatic sprinkler system shall be provided for every portion of educational buildings below the level of exit discharge.

N-O: SYSTEM MAINTENANCE RECORDS:

- 901.6 & TBL 901.6.1 Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed. Records of all inspections, tests and maintenance shall be maintained on the premises for a minimum of 3 years. Fire protection systems shall be inspected, tested and maintained in accordance with the following. Portable fire extinguishers NFPA 10, Dry-chemical extinguishing systems NFPA 17, Wet-chemical extinguishing systems NFPA 17A, Water-based fire protection, systems NFPA 25, fire alarm systems NFPA 72, Commercial Cooking Equipment: NFPA 96, Emergency Standby Power: NFPA 110 & 111.

P: PAINTED SPRINKLER HEADS:

- 901.8 Painted sprinkler heads or cover plates are prohibited unless painted at the factory. They cannot be cleaned of paint. They must be replaced.(NFPA 13, 6.2.6.2.1)

Q: COMMERCIAL COOKING EQUIPMENT:

- 904.11.1, 904.2.1 A manual actuation device shall be located at or near a means of egress from the cooking area, 42-48 inches above floor.

R: TYPE I HOODS & SUPPRESSION:

- 904.2.1 Commercial kitchen (Type I) exhaust hood and duct systems shall be protected by an approved automatic fire-extinguishing system.

HOUSEKEEPING

A-F: COMBUSTIBLE MATERIAL STORAGE:

3404.3.4.2(3) , 315.2

Flammable and combustible liquid storage in Group E occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 2703.1.1(1). Combustible material shall not be stored in exits or exit enclosures. Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms. Storage shall be separated from heaters or heating devices. Storage shall be maintained 24in or more below the ceiling in non-sprinklered bldgs. or 18 inches below sprinkler deflectors in sprinklered bldgs. Attic, under-floor and concealed spaces used for the storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistive construction. Exception if the area is protected by an approved automatic sprinkler system.

G: OILY RAGS:

304.3.1

Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container (self-closing lid). Contents shall be removed and disposed of daily.

J: COOKING EQUIPMENT CLEANED:

904.11.6.3

Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded.

K: GREASE LADEN VAPORS HOOD REQUIREMENT:

610.2

A Type 1 hood shall be installed at or above all commercial food cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

L: PERSONAL EFFECTS:

807.4.3.1

Clothing and personal effects shall not be stored in corridors and lobbies unless the corridors and lobbies are protected by a smoke detection and/or automatic sprinkler system.

M: UNVENTED HEATING:

603.4

Portable unvented fuel-fired heating equipment shall be prohibited.

N: FIRE DEPARTMENT CONNECTION:

508.5.4

Items shall not be placed or kept near fire hydrants, fire department inlets (FDC) in a manner that would prevent such equipment or fire hydrants from being immediately discernible and from gaining immediate access to the fire protection equipment of fire hydrants.

ELECTRICAL

A-C: POWER STRIPS:

- 605.4 Re-locatable power taps shall be of the polarized or grounded type, equipped with overcurrent protection, and shall be listed. Re-locatable power taps shall be directly connected to a permanently installed receptacle. Re-locatable power taps shall not extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental or physical damage.

D-J: EXTENSION CORDS:

- 605.5 Extension cords shall not be a substitute for permanent wiring and shall not be affixed to structures, extended through walls, ceilings or floors. Cords shall not contain splices or damage. Extension cords shall only be plugged directly into an approved receptacle. Except for approved multi-plug extension cords, each extension cord shall serve only one appliance. The ampacity of the extension cord shall not be exceeded. Extension cords shall be grounded when serving grounded portable appliances.

K: PANEL:

- 605.3 A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

L: JUNCTION BOX:

- 605.6 Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and outlet boxes.

M: MULTIPLEG ADAPTERS:

- 605.4 Multi-plug adapters, such as cube adapters, un-fused plug strips or any other device not complying with the International Code Council Electrical Administrative Provisions shall be prohibited.

O: TEMPORARY WIRING:

- 605.9 Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days.
- EXCEPTION: Longer for construction, remodeling, repair or demolition of buildings.

MISCELLANEOUS

E: SYSTEMS MAINTAINED:

907.20.5 The building owner shall be responsible for ensuring that the fire and life safety systems are maintained in an operable condition.

F: FIRE ALARM SYSTEM REQUIRED:

907.3 An approved manual, automatic or manual and automatic fire alarm system shall be installed in existing buildings and structures in Group E occupancies.

G: EVACUATION PLAN:

404.4, 404.2 An approved fire safety and evacuation plan shall be prepared and maintained. The plan shall be reviewed or updated annually.

H: DRILLS:

405.2 All occupants must participate in monthly fire and evacuation drills.

I: EVACUATION PLAN ATRIUM:

404.2 Group E buildings with an atrium must have an approved fire safety and evacuation plan.

HAZARDOUS MATERIALS

B-C: HAZARDOUS MATERIALS STORAGE:

2703.9.8, 3404.3.3.5.3

Storage of incompatible materials shall be separated if in containers having a capacity over 5 lbs. or 0.5 gallon. See how to separate. Shelf storage of flammable and combustible liquids shall be orderly.

D: BELOW GRADE LPG STORAGE:

3803.2.1.1

Portable LP-gas containers shall not be used in a basement, pit or similar location where heavier-than-air gas might collect.

E-F: FLAMMABLE LIQUID AND GAS STORAGE:

3404.3.4, 3503.1.1

Flammable and combustible liquids used for maintenance and the operation of equipment exceeding 10 gallons shall be stored in a liquid storage cabinet. Except for cylinders not exceeding 250 cubic feet each, used for maintenance purposes, patient care or operation of equipment, flammable gases shall not be stored or used in Group E occupancies.

FIRE PROTECTION

I: RATED DOORS BLOCKED OR WEDGED:

TBL 1017.1, 703.2

Fire doors and smoke barrier doors shall not be blocked. No door wedges or fold down feet in rated corridors.

A-E: RATED DOORS MAINTAINED:

703.2

Fire doors and smoke barrier doors shall not be modified, blocked or obstructed or made inoperable. Swinging fire doors shall close and latch automatically. Horizontal and vertical sliding doors shall be inspected and tested annually. A written record shall be maintained and be available. Magnetic hold-open devices and automatic door closers on fire doors, where provided, shall be maintained. If fire doors are out of service the door shall remain in the closed position.

F-G: DECORATIONS:

805.1, 806.1.1

Curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall be flame resistant. Natural cut trees shall be prohibited in Group E occupancies unless protected by an automatic sprinkler system.

H: SELF OR AUTOMATIC CLOSING DOORS:

703.1

Openings through fire-resistance-rated assemblies shall be protected by self-closing or automatic-closing doors.

KANSAS STATUTES & REGULATIONS

KS01: FIRE PROTECTION CHANGES:

K.S.A. 31-150 New buildings or changes in exiting, fire resistance, or handicapped accessibility, including modifications or additions, shall require that stamped and sealed plans from a licensed architect or engineer be submitted and reviewed by the appropriate authority having jurisdiction. Documentation indicating that the plans have been submitted and approved shall be available to the inspector.

KS02: EMERGENCY PROCEDURES:

K.A.R. 22-18-2(c) Tornado procedures shall be established by the administrator of each community college and university for all buildings, which designates tornado safety refuge areas. A notice of location of the tornado safety refuge area shall be posted in conspicuous location. Administrators shall provide copies of tornado plans to local or county preparedness director for approval.

KS03: BUILDING STRUCTURAL SOUNDNESS:

K.S.A. 31-133(a) If a building shows severe or worsening settlement, severe cracking of exterior bearing walls, or roof deflection, a report shall be provided to OSFM for review and determination of appropriate action.

KS04: EXTERIOR STAIR SUPPORTS:

K.S.A. 31-133(a) Exterior stair support shall be either: a) structurally supported to the ground; or (b) documentation of an inspection by an architect or engineer with structural background within the last 5 years assuring that the exit stairs will remain structurally sound when supported solely by a building wall.

KS05: BELOW GRADE LP INSTALLATION:

K.S.A. 31-133(a) Where LP gas appliances are located in below-grade installations where an accumulation of gas vapors is possible, the area or room shall be protected by an approved vapor removal system. If LP gas piping system has not been pressure tested within the last five years or since the installation of new LP gas appliances or changes to LP gas piping, NFPA 85 and NFPA 54 REQUIRE that the system be pressure tested and documented by authorized LP gas dealer or marketer.

KS06: BOILER CERTIFICATE:

K.S.A. 44-924(b) A current boiler certificate, no more than 18 months beyond expiration date, shall be posted. This is required for all boilers, all water heaters with a water capacity of 85 gallons or greater, and all water heaters rated for more than 200,000 BTU's, regardless of size.

KS07: SYSTEM SERVICE:

K.A.R. 22-10 Fixed extinguishing systems protecting commercial cooking equipment shall be serviced by a firm licensed by **OSFM**. Fusible links shall be replaced yearly. Documentation shall be maintained on-site.

KS08: PTR/VALVE RELIEF:

K.S.A. 44-924(b) Pressure and temperature relief (PTR) valves on fuel fired hot water heaters shall appear operational and shall have piping which extends to within 6 inches of the ground. Piping shall not have bends and shall be of an appropriate material.

KS09: LOOSE COMBUSTIBLE STORAGE:

K.S.A. 31-133 Loose combustible storage is prohibited in boiler and furnace rooms and exit-ways. Loose combustible storage includes pasteboard boxes, wooden furniture, and material packaged in combustible containers. It does not include bound books or paper bound in reams.

KS10: COMPRESSED GAS CYLINDER:

K.S.A. 31-133 Compressed gas cylinders shall be adequately secured with caps in place when not in use. Cylinders shall be stored away from heat sources.

KS11: GAS POWERED EQUIPMENT:

K.S.A. 31-133 Gasoline powered equipment storage is prohibited in boiler, fuel-fired equipment rooms and exit ways.

KS12: FLAMMABLE LIQUID STORAGE:

K.S.A. 31-133 Flammable liquid storage is prohibited in boiler and fuel fired equipment rooms and exit-ways. Flammable liquids shall be in containers approved for the use and marked with the material's name. Storage shall be in an approved flammable liquid storage cabinet when total quantities stored exceed 5 gallons.

KS13: DANGEROUS CONDITIONS:

K.S.A. 31-133 Situations requiring immediate action and building evacuation to mitigate an imminent danger to life or health of the building occupants that is not a normal component of the inspection, including a natural gas leak, atmospheric contaminant within the building, complete power failure, or similar emergencies. Inspector is required to contact the Chief of Fire Prevention Division for immediate guidance and determination of requirements and facility response.

KS14: FIRE DRILL FREQUENCY (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be conducted once each month that school is in session to simulate actual fire. If records indicate one or more months past due, a drill shall be conducted in the inspector's presence.

KS15: FIRE DRILL & DISABILITY (GROUP E):

K.A.R. 22-18-2(a) Fire drill procedures for occupants with disabilities shall exist in a written format and shall be maintained.

KS16: FIRE DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(a) Fire drills shall be documented on a record provided by OSFM and publicly posted.

INSPECTOR SHALL VERIFY OWNER INFORMATION IS COMPLETE ON DRILL RECORD.

KS17: TORNADO DRILL ALARM (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall use a distinctly different alarm sound from that used for the fire alarm.

KS18: TORNADO REFUGE AREA (GROUP E):

K.A.R. 22-18-2(c) Tornado refuge area location shall be conspicuously posted, typically by signage at a building's main entrance bulletin board, classrooms, and/or signage at refuge area.

KS19: TORNADO DRILL DOCUMENTATION (GROUP E):

K.A.R. 22-18-2(c) Tornado drills shall be documented on record provided by OSFM and publicly posted.

KS20: ESCAPE WINDOW (GROUP E):

K.S.A. 31-150 Mobile classrooms require a remote, complying escape window or second exit door.

EXCEPTION: When each classroom has a door directly to the exterior.

KS21: BUS BARN (GROUP E):

K.S.A. 31-144(c) Bus barns and district vehicle repair garages function independently of classrooms and require a 2 hour fire barrier with 1 ½ hour rated door assemblies between them and K-12 school areas, unless otherwise accepted by OSFM and documented in writing. (For auto-shop classrooms, see hazardous rooms.)

KS22: JUVENILE DETENTION FIRE DRILL (GROUP I):

K.A.R. 22-15-7(q) Quarterly fire drills for staff training are required and must be documented.

KS23: JUVENILE DETENTION CONSTRUCTION (GROUP I):

K.A.R. 22-15-7(b)

K.S.A. 31-136

(Equivalent construction types)

Approved construction shall be one of the following for single story buildings: 1) One hour non-combustible, or 2) When previously approved and documented in writing by the OSFM a) one-hour wood frame construction, fully sprinkled, and limited to 3,900 square feet of detention space, or b) heavy timber construction and fully sprinkled.

FIRE FACTS FOR EXISTING BUILDINGS

Important Note: These **Fire Facts** pertain only to facilities regulated by the Office of the Kansas State Fire Marshal. Pursuant to K.S.A. 31-133, the Office of the State Fire Marshal does not regulate buildings used wholly as private residences containing no more than two families.

GENERAL SECTION

FIRE FACT 001 – OWNER RESPONSIBILITY

Facility owners and operators have the ultimate legal responsibility for the safety of all occupants within their facility. This responsibility cannot be transferred to any code authority, whether local or state.

The owner/operator has this responsibility:

- Regardless of whether or not any inspections have been performed by any authority, whether local or state.
- Regardless of whether or not a plan of correction has been accepted by any authority, whether local or state.
- Regardless of whether or not any plan review has been done by any authority, whether local or state.

Office of the State Fire Marshal's role is to provide life safety oversight. For certain types of facilities, this role is mandated by state law or Centers for Medicare and Medicaid

The OSFM provides a risk management service. Assistance is provided to facility owners and operators to lower their potential risk from incidents that could endanger the occupants of the building. The OSFM identifies noncompliant life safety issues in new and existing facilities and we communicate these issues to the owner/operator to provide appropriate solutions.

New facilities shall comply with all applicable fire codes and regulations. Life Safety violations in new facilities are unacceptable.

OSFM cannot:

- Provide design services to the owner/operator
- Defer liability away from the owner/operator
- Provide guidance on how to correct fire issues

Facility owners and operators are responsible for maintaining all documentation concerning their facility. They must maintain correspondence that relates to acceptance of nonconforming conditions and plan approval. This documentation may be requested by inspectors at later on-visits. Code footprints are the best way to document acceptance for nonconforming conditions and to document the code status of a facility.

FIRE FACT 002 – LOCAL JURISDICTION

Office of the State Fire Marshal has jurisdiction over all buildings, other than one and two family dwellings and we are statutorily required to annually inspect some, but not all, of those occupancy types. Office of the State Fire Marshal focuses our efforts on facilities posing distinct fire hazards and those places where the potential loss of life from fire is very high, including structures where the very young and very old live and congregate. This prioritization results in a OSFM annual inspection cycle of all USD schools, colleges, preschools, child care centers, hospitals, assisted living facilities, nursing homes, residential board and care homes, jail and detention facilities, and propane. We additionally inspect home daycares once in the life time of the license, and any building if a complaint is received.

OSFM routinely gets questions regarding whether or not their local fire department is authorized and able to conduct the fire inspections. Here are some highlights of that authority. For more detailed information, please see K.S.A. 31 “Kansas Fire Prevention Code”.

31-137 Who has authority for enforcement; investigations; inspections; and reports?

- *The state fire marshal,*
- *Deputies of the fire marshal,*
- *The chief of any organized fire department, whether such fire department is regular or volunteer,*
- *Any member of any such fire department who has been duly authorized by the chief thereof,*
- *Inspection report must be filed with the Office of the State Fire Marshal*

31-139 Violation findings

All persons designated in K.S.A. 31-137 have authority to, upon finding a violation

- *Issue a notice of non-compliance*
- *File a criminal complaint with the attorney general or the district/county attorney*
- *Issue a cease and desist order to the owner*

31-144 School building inspections

Any building or structure operated or used for any purpose by, or located upon the land of, any school district, community college, vocational school, vocational technical school, institution under the state board of regents or any private or nonpublic school, college or university, whether or not operated for profit.

- *All school buildings shall be inspected at least once each year.*
- *In all cities of the first and second class in which there is a full –time fire chief or full-time fire inspector, the inspection of the school buildings shall be conducted by such chief/inspector.*

If my local fire department conducts the inspection, will OSFM have to conduct one as well?

No. If the local fire department conducts a fire inspection then there is no need for a second inspection during that same year. However, if the local jurisdiction only inspects every other year, then we may have to inspect during the year that they skip.

In an effort to reduce inspection duplication, the Office of the State Fire Marshal has requested that any local fire department that is conducting inspections within their jurisdictions provide OSFM with a listing detailing which facility types will be inspected.

A listing of the fire departments conducting inspections is updated and maintained on our webpage.

FIRE FACT 003 – MIXED OCCUPANCIES

One of the most critical decisions made by fire protection professionals is determining which occupancy classifications are applicable to the building. This determination is not only made during the original design and construction of the building but also several times during the lifetime of the building each and every time the building is sold, reopened or the occupancy changes.

This determination can be extremely complex especially in cases where there are multiple occupancies that cannot be separated. Auditoriums in a school, a dormitory in a college, a childcare center in a hospital are examples. When you have a mixed occupancy in a building, two options exist:

FIRE-RATED CONSTRUCTION

Ideally these different occupancy classifications would be construction that is relative to the associated risks. In these cases, each occupancy would be treated as its own building and would be inspected separately with regards to the use.

NON-SEPARATED OCCUPANCY

In most cases the fire-rated separation does not exist and fire protection professionals must determine which codes are going to be required. The following fire codes have slightly different requirements as to how these non-separated buildings will be inspected.

2006 International Building Code (All occupancies, excluding federal healthcare)

- Non-separated occupancies shall be individually classified
- Code requirements shall apply to each portion, based on the occupancy of that space
- Most restrictive provisions for high-rise buildings shall apply throughout the building
- Most restrictive provisions for fire protection systems shall apply throughout the building

2000 Life Safety Code, NFPA 101 (Federal healthcare facilities)

- Requirements for all occupancies apply throughout the building
- Most restrictive provisions must be met

FREQUENTLY ASKED QUESTIONS

Q.) I have a mixed occupancy building with proper fire-rated construction separating the two occupancies. The fire inspector inspected the entire building. Will I get 1 report or 2 reports?

A.) If you are inspected by a OSFM inspector you will get 2 separate reports. You must provide a correction to both inspection reports individually.

Q.) I have a mixed occupancy building with proper fire-rated construction separating the two occupancies. The fire inspector only inspected the 1 portion of the building. Will the inspector return to inspect the other occupancy?

A.) This depends. Typically the inspector will inspect all that are required to have an annual inspection while they are on site. However, there are instances where an inspector will be assigned an inspection for a specific occupancy, such as a complaint inspection, and there would be no requirement or need for them to inspect the other occupancy.

FIRE FACT 004 – IMMEDIATE JEOPARDY

For several years now, fire prevention inspectors have used a standard set of criteria when conducting inspections. This set of criteria has remained consistent and is readily published by the Office of the State Fire Marshal. When items are found during inspections that do not meet the criteria found in the OSFM or Centers for Medicare and Medicaid Services (CMS) checklists, they are considered distinctly hazardous. The following three distinct hazards present an immediate jeopardy to building occupants and shall be addressed immediately:

- 1) Exit doors that are chained and/or padlocked closed.
- 2) The fire alarm system is impaired and no work is in progress to restore it to an operable condition.
- 3) An existing automatic sprinkler system is impaired and no work is in progress to restore it to an operable condition.

If any of these three conditions are found, they must be corrected IMMEDIATELY. The OSFM inspector will remain on the premises until corrected.

These conditions pose a very real threat to the occupants' lives. Despite efforts to educate administrators, architects, engineers, and construction supervisors, these hazards are still found during annual inspections.

The OSFM will take whatever measures are necessary in order to achieve compliance. This may even include the immediate evacuation of the building. In this case, buildings may remain unusable until the problem is corrected and appropriate planning for fire safety is shown.

ADDITIONAL FEDERAL HEALTHCARE

If a distinctly hazardous condition is cited with a scope and severity consistent with an "Immediate Jeopardy", the facility may incur a civil money penalty between \$3,050 and \$10,000 per day or a "per instance" civil money penalty from \$1,000 to \$10,000 for each deficiency.

The civil money penalty is determined by the CMS regional office or the State Medicaid Agency. Neither the Office of the State Fire Marshal nor the fire inspector that conducted the inspection is involved with determining civil money penalties as part of a federal inspection.

The facility must immediately submit an allegation that the immediate jeopardy has been removed as well as provide sufficient detail to demonstrate how the situation has been addressed so that the State Agency can verify the abated immediate jeopardy.

FIRE FACT 005 – ROLLING FIRE DOORS

Rolling overhead fire doors have been used by architects in buildings to provide separation from one addition to another, or to separate buildings. These doors can cause severe exiting and life safety problems when released. Roll-down doors are extremely heavy and are typically unstoppable once activated. Currently, the potential threat of rolling fire doors outweighs any potential benefit they might offer. When activated during a fire, the rolling fire doors carry a huge potential to injure building occupants and create unexpected dead-end corridors which could easily trap occupants.

Each building owner should consult with their insurance carrier and local building and fire authorities to see whether or not fire separation is required by the rolling fire door across exit corridors.

If a fire-rated door is not required at a location, the overhead rolling door should be secured or removed.

If a fire-rated door is required, the rolling door should be secured in place or removed completely, and then replaced with properly rated swinging doors. If the overhead doors cannot be immediately eliminated, the rolling doors shall be checked to insure they are being maintained properly and plans should be made to replace the doors.

FIRE FACT 006 –CARBON MONOXIDE

Carbon monoxide (CO) exposures occur every year in Kansas. Carbon monoxide exposures can be easily prevented by understanding the risk and taking some simple preventative measures.

Exposure Risk

Carbon monoxide is a colorless, odorless gas (not "fumes") given off as a by-product of the combustion of fuels commonly used for heating, such as propane, natural gas, kerosene, and charcoal. *Human senses can't detect CO*-the first indication of its presence may be the symptoms of obvious poisoning. Due to the nature of the gas and the effect on the human physiology, it produces a potentially fatal type of poisoning that also renders the victim unable to perform self-rescue.

Improper or impaired venting of heating appliances is the most common cause of CO exposure. Without appropriate venting, the products of combustion from a heating appliance can be released into the living space of a building, most often at a time of year when the building is sealed up tight to keep the heat in. Heating appliances that burn fuels also need sufficient fresh air for combustion, and a tightly sealed building may not allow the air to enter except through the vent. This may also impair proper venting. The lack of fresh air exchange in a sealed building can allow the CO levels to steadily increase. Since CO is not detectable by human senses, occupants of a building may simply go to "sleep" and never to wake up unless somehow rescued by others. It is important to note ALL appliances using the fuels listed above give off CO. It becomes a threat to humans only when the CO is allowed to collect in an occupied space.

Exposure Prevention

The key to preventing CO poisoning is ensuring proper operation and venting of appliances. The best way to ensure proper venting is by having qualified service personnel thoroughly check the appliance periodically. Venting problems are typically rather easy to correct and the cost of a yearly inspection prevents the much higher costs of medical care and possible litigation if an exposure occurs.

CO detectors are available and may be useful for warning of a CO problem. However, the best way to handle the potential risk is to practice *active prevention*.

Remember: an ounce of prevention is worth a pound of cure.

PROFESSIONAL DESIGN

FIRE FACT 010 – CODE FOOTPRINT

New construction in the state of Kansas, including building additions and changes, must be under the direct supervision of a Kansas licensed design professional, whether an architect or engineer. The work shall be designed and constructed to the criteria established by Kansas regulation. Furthermore, the plans shall be reviewed for code compliance or a building permit shall be obtained from a local building official and/or fire authority with building inspections taking place during construction and a certificate of occupancy issued prior to formal use. In some local jurisdictions, both will take place.

Kansas architects, engineers, building code officials, and fire officials shoulder the responsibility for providing a third party objective evaluation of the fire safety features of newly constructed buildings. Resources may not be readily available to verify new construction is designed and built to meet the intent of the Kansas Fire Prevention Code. The major participants of the fire protection team are the building owners and operators, the local inspection authorities, the Office of the State Fire Marshal, and the Kansas licensed design professionals. These major participants must work together to facilitate the efficient use of resources. Fire protect and life safety features must be included in the original design concept and not retrofitted at a later stage.

The Office of the State Fire Marshal is leading the effort to capitalize on the effectiveness of plan review to ensure a higher degree of quality in new construction. Architects generate building designs to protect occupant safety and well-being, but much of the code criteria used to design and construct the building is not formally recorded. Coherent code inspections of plan submittals are therefore nearly impossible.

To make such a review of specific code criteria possible, a format called a “code footprint” has been developed over the years. The code footprint provides a snap-shot of the key code information shown within a small scale built plan. The code footprint reduces redundancy and increases the coordination between all participants involved with new/existing construction. A sample code footprint is included in this guide.

**ATTENTION
KANSAS LICENSED ARCHITECTS AND ENGINEERS

PLEASE DO NO SUBMIT
COMPLETE CONSTRUCTION DOCUMENTS
OFFICE OF THE STATE FIRE MARSHAL FOR REVIEW**

WHEN IS A CODE FOOTPRINT REQUIRED?

A code footprint shall be prepared for all new buildings, new additions, and changes in occupancy, or building renovation.

WHAT OCCUPANCIES REQUIRE A CODE FOOTPRINT?

A code footprint shall be submitted to the state fire marshal for review and acceptance for the following occupancies:

- Group A: Assembly having a combined occupant load in excess of 2,000 persons;
- Group B: Business used at any community college, area vocational school, vocational technical school, technical college, or any institution under the governance of the state board of regents;
- Group A: Assembly mixed with educational or institutional
- Group E: Educational, including any day care facility for more than 24 persons;
- Group I: Institutional, including any state or other governmental entity's detention facilities, and any occupancy physically attached to a group I occupancy regardless of fire barrier separation
- Group R-1 or R-2: Residential that is three or more stories in height, including basements, or more than 12,000 square feet in area
- Group R-4: Residential occupancy

CODE FOOTPRINT SUBMITTAL REQUIREMENTS

In order to get your submittal reviewed by a Fire Protection Specialist you must submit the following:

- 11" x 17" reduction of the full sized drawing
- C.2.2
- C.2.2.A

The C.2.2 and C.2.2.A can be found on our webpage.

<http://firemarshal.ks.gov/division/prevention/plans-review-code-footprint>

You may submit your information electronically or through the mail. If you submit electronically, you must submit in a pdf format, as we do not have all the various programs/software used for design. Call the main office to obtain an email address (785) 296-3401.

SUBMITTAL TIMEFRAMES

Office of the State Fire Marshal has 30 days to review your code footprint for compliance with all the state adopted codes and regulations. This 30 days start from the date that we receive a complete submittal. Incomplete submittals will not be reviewed by a Fire Protection Specialist.

We review submittals in the order that they are received. You must plan accordingly and submit your information well in advance of any critical deadlines.

We will NOT do an emergency review or place your submittal ahead of others.

Everyone has deadlines and more importantly our staff needs time to be able to sit down and accurately review the information. Often times a "hurried" review lends itself to errors.

REQUIRED ON CODE FOOTPRINT

- (1) Graphic bar scale;
- (2) North directional indicator;
- (3) Complete building floor plan, with clear identification of new, remodeled, and existing (Shading);
- (4) Identification of all permanent partitions taller than six feet;
- (5) Label with plain text, keynotes, or legends for each room and space;
- (6) Occupant load of assembly rooms and total occupant load for each floor level;
- (7) Stair and shaft enclosures: openings and ratings;
- (8) Corridors: Openings and ratings;
- (9) Occupancy and area separations identified;
- (10) Horizontal exit arrangements, exit passageways, and smoke compartments identified;
- (11) Exterior exits and exit capacity identified;
- (12) Location of the central fire alarm control panel and any remote annunciator panels;
- (13) Location of each fire department supply connection;
- (14) Location of fire department access roads and fire hydrants;
- (15) Property line distance and exposures;
- (16) Special hazards or conditions identified; and
- (17) Location of any anticipated future additions (dotted lines)

REQUIRED ON CODE FOOTPRINT ANALYSIS

- (1) Project construction purpose: new, addition, change in use, renovation, or other;
- (2) Reason for submittal: new construction, new licensure, certificate of occupancy, or plan of correction for existing code deficiencies;
- (3) Building street address, city, state, zip code;
- (4) Owner name, address, city, state, zip code, phone and fax number;
- (5) Designer name, address, city, state, zip code, phone and fax number;
- (6) Designer's seal (RA or PE);
- (7) Date developed and any revision dates;
- (8) Code or codes used;
- (9) Name of the responding fire service;
- (10) Name of the local building inspection department, if available;
- (11) Each occupancy group and type;
- (12) Type of construction;
- (13) Structural code requirements, including the following:
 - (A) The total floor area of each occupancy, both actual and allowable;
 - (B) Height and area limitations, both actual and allowable; and
 - (C) structural fire ratings**, both actual and allowable;
- (14) Active fire safety features, including the following:
 - (A) The type of automatic suppression systems and locations;
 - (B) The fire alarm signaling system;
 - (C) Emergency lighting and power features; and
 - (D) The smoke control system;
- (15) Water supply requirements of the facility for fire suppression; and
- (16) Alternative methods of design or construction, or both.

****Structural Fire Protection Ratings**

Interior bearing walls, Exterior bearing walls, Exterior nonbearing walls, Structural frame, Permanent partitions, Shaft enclosures, Floors, Roofs, Exterior openings, Proposed UL, FM, or other fire assembly numbers (if available).

FIRE FACT 011 – PROFESSIONAL DESIGN

WHEN DO I NEED TO GET AN ENGINEER OR AN ARCHITECT?

The law requires a Kansas licensed architect or engineer to design projects and systems meeting specific criteria in the State of Kansas

The services of a Kansas licensed architect are required when:

- Designing new buildings (Excluding single family dwellings & farm buildings)
- Designing changes to existing buildings which affect structural components
- Designing changes to existing buildings which affect the fire resistive qualities of the structure

A Kansas licensed professional engineer is required when:

- Design or modification of fire detection
- Design or modification of automatic sprinkler system
- Design or modification of automatic smoke detectors system
- Design or modification of flammable gas detection systems
- Design or modification of liquefied petroleum gas systems

The involvement of an architect or engineer in the design stage reduces the chance that a safety related code violation will be identified during construction and also reduces the delay and expense of correcting any safety problems before an occupancy permit can be granted.

Before hiring a Kansas licensed architect or engineer be sure you do some research and ask some important questions such as:

- 1.) Are they familiar with K.A.R 22-1-7 regarding code footprint submittals?
- 2.) Are they designing to the editions adopted by the Office of the State Fire Marshal's Office?
- 3.) What are their timelines for acceptance?
- 4.) Who do they hire to do the construction work?
- 5.) What is their construction warranty?

FIRE FACT 012 – SCHOOL CONSTRUCTION

The term “school building” refers to any building or structure built on the property of a school or used by a school. This includes elementary and secondary schools, colleges, universities, and trade schools and covers both public and private institutions.

The Kansas Fire Prevention Code requires any new building construction project to comply with the 2006 edition of the International Building Code. This includes new buildings, additions to existing buildings, and renovations and remodeling projects in existing buildings that alter or change the occupancy of a building or alter the exiting, fire resistance, or structural integrity of a building. For example, relocating a program for children aged 2 ½ to 5 years of age into a building that was previously used for K-12 education is a change of occupancy.

New in Legislative YR 2010-2011

K.S.A 31-150 no longer requires a code footprint to be submitted to the Kansas Department of Education (KSDE) or the Office of the State Fire Marshal (OSFM) for approval. Here is an excerpt of the statute detailing the requirements for new construction, renovation and remodeling.

“No contract shall be let for the construction, reconstruction or renovation of any school building, and it shall be illegal to pay out any public funds for the construction, reconstruction or renovation of a school building until the plans for such building shall: (1) bear the seal of an architect or a professional engineer licensed by the state board of technical professions of the state of Kansas certifying that the plans meet the applicable requirements.”

The statutory responsibility for code compliance in new school construction remains with the licensed design professional whose seal is on the plans. This is true regardless of whether or not any plan review was conducted. No statutory liability is transferred to any Code Authority. The International Building Code addresses building safety and does not specifically address many site issues.

New school construction is not subject to any local amendments of the Uniform Building Code. Separate and/or additional requirements of the Life Safety Code not found in the Uniform Building Code are not applicable to new school construction. For more on this, refer to Attorney General Opinions 87-9 and 86-81.

OSFM RECOMMENDATION

It has always been a mission of the Office of the State Fire Marshal to ensure Kansas schools are safe from the potential impact of a fire or explosion. Even though the statute has changed, we HIGHLY recommend that school districts submit their code footprint to our office for review of fire code compliance prior to the start of any construction, renovation, or remodel.

Our plan review service has been, and will remain free of charge. The only expense to the school is time. However, the additional time spent to ensure the building is/or remains in compliance is a small price to pay for fire safety.

We recommend submittal for the following:

- New construction, renovation, remodel of buildings, especially those that impact egress paths or exiting features
- Fire Alarm system
- Fire Sprinkler system

CONSIDERATIONS WHEN SUBMITTING TO OSFM

If a facility chooses to submit plans to OSFM for review, any identified deviations must either be clarified or corrected by the designer to the satisfaction of the reviewing authority prior to construction. It will not be an optional correction!

If a facility does not have OSFM review construction plans; the cost may be extensive if fire code violations are identified after-the-fact during a routine inspection. OSFM will require all noncompliant issues to be corrected.

When plans for new construction are reviewed by OSFM, they are typically reviewed within 2 weeks. The focus of the OSFM is on compliance with the International Building Code with special attention placed on exiting, notification, detection, separation, and suppression.

THE LOCAL JURISDICTION'S ROLE

In areas where a building official is present, a plan review, a building permit, inspections, and a certificate of compliance may be required. In areas without a building official, an authorized representative of the Office of the State Fire Marshal may inspect for code compliance.

The school owner and the designer or engineer shall work with local authorities towards resolving fire department access, water supply, zoning requirements, and drainage issues. Local authorities may require a school site to provide fire department access and adequate water supplies or allow the option for the building to be fully sprinklered to compensate for these requirements.

If a conflict in interpretation occurs between the local building or fire authorities and construction documents, the issue should be brought to the Office of the State Fire Marshal Office at 785-296-3401. We will try to interpret any unresolved issues.

FIRE FACT 013 – STRUCTURAL INTEGRITY

Structural Integrity

Lack of structural soundness in any building can be deemed a dangerous condition which may slow or impede speedy evacuation.

In structures other than schools, the guidelines for the Office of the State Fire Marshal are set forth in the general provisions of K.S.A. 31-133 relating to construction and maintenance of exits. This is in addition to the nationally recognized codes adopted by Kansas Regulation as standards of reference. Specifically regarding schools, K.S.A. 31-144 specifies any dangerous condition in schools will be identified and corrected.

Problem

Over the past several years, buildings with exterior masonry load bearing walls in Kansas have been identified as deteriorating. Date of original construction is not a single true indicator of the structural integrity of the building; each building must be viewed individually. It has been the practice of the Office of the State Fire Marshal to walk fully around a building looking at the condition of exterior walls and roofs. Specifically, our inspectors look for large cracks in the structure or mortar, spalling mortar and building materials, or lines that are not plumb indicating significant deflection or settlement. This includes window lintels. Walking around the building and reviewing wall, window and door conditions gives inspectors a chance to view potential problems. It is difficult to determine whether interior cracks are mere flaws or poor finishes without viewing exterior conditions.

When significant deterioration in outward conditions is identified, it is normal procedure for our office to require a written report from a Kansas licensed structural engineer to indicate if the building is safe to remain occupied and for how long. Typically, if the structural engineer indicates certain repair work is required to keep the building or portion sound, the work must be completed, or the building abandoned, or a second opinion from another Kansas licensed structural engineer which reverses the original findings. Most structural evaluations are conservative, since it is better to vacate a building which has been identified by a licensed Kansas acceptable to allow an occupied building which has been identified by a licensed Kansas engineer as unsound to further deteriorate without positive corrective actions by the owner operator. The findings from a structural report may not resolve the concern.

Since 1992 a number of school related structures have been found to be unsound and/or unsafe to continue in use without abatement of deterioration of some portion of the structure. Another large group of schools have yet to be identified as structurally unsound. However, the Office of the State Fire Marshal staff is better equipped to see and understand the indicators previously listed. The continued use of any unsound school building has not been conditioned solely upon the passage of a bond issue.

INSPECTION INFORMATION

FIRE FACT 020 – PLAN OF CORRECTION

Inspectors from the Office of the State Fire Marshal will survey the facility. A Violation Notice containing a list of deficiencies found by the surveyor will be provided electronically. If an email address is not available a hardcopy will be provided.

Timeframe for Response:

Facilities must submit a plan of correction for each deficiency listed on the Violation notice. The plan of correction must be entered in the right-hand column on the form and the form must be submitted back to the Office of the State Fire Marshal within **10 days** of a receipt of the list of deficiencies.

Submitting Plan of Correction:

Write each plan of correction on the form opposite the respective deficiency. If additional space is needed, continue on an attached sheet. However, be sure to refer to the deficiency number or State regulation number and identify the attachment.

Descriptive Content:

The plan of correction must provide information which ensures that the intent of the regulation cited is met. Stating that a deficiency has been "corrected" or "Will be Fixed" is NOT Acceptable.

Your plan of correction for each deficiency

- Corrective action to address the deficiency (Federal and State Routine)
- Date of completion (Federal and State Routine)
- Systematic change to be implemented to ensure deficiency will not recur (Federal)
- Individual's title responsible for monitoring correction (Federal)

Note: you CANNOT dispute a deficiency on your plan of correction: it will be rejected.

Completion Dates:

The plan of correction must include a completion date (entered in the right-hand column). Some deficiencies may require a staged plan to accomplish total correction. Deficiencies requiring getting bids, remodel replacement of equipment, etc., will require more time to accomplish correction but should show reasonable time frames. See Fire Facts 021 and 022 for waiver request forms and instructions.

Signature and Date:

The Violation Notice must be signed and dated by the owner/operator or other authorized official.

FIRE FACT 021– GENERAL WAIVER

Facility Types: All facilities except federal healthcare

If a facility is unable to correct a deficiency within 90 days from inspection exit date, the facility may submit a waiver for an extension of time. Enforcement Officers will review and make determinations on waiver extensions of up to 6 months from inspection exit date. Any request for time that exceeds 6 months will be submitted to the Chief of Inspections, for his/her determination.

Note: All waiver requests must be submitted along with the initial plan of correction response.

Submitting a waiver request

The plan of correction still must address how the deficiency will be corrected, however a separate waiver request form must be submitted for each deficiency that will not be corrected within the 90 days. The following criteria must be documented on the waiver request form:

- Evidence the deficiency does not pose a hazard to the occupants
- How immediate correction would pose a hardship to the facility
- Indicate construction milestones (i.e. get bid by (date), have plans submitted by (date), etc.)
- Additional safety measure correction

Additional Safety Measures

Additional safety measures must be implemented to compensate for the delay in correcting the original deficiency. Each facility must implement at least two additional safety measures for each waiver request. The following is a list of additional safety measures that have been approved.

The facilities may also come up with their own additional safety measures.

- *Additional single-station smoke detection (REQUIRED FOR ALL BUILDING OCCUPANCIES)*
- Additional sprinklers/water curtain
- Additional fire extinguishers
- Safety rounds (dedicated person, all areas of the facility inspected for fire safety issues)
- Infrared inspection of motors and electrical panels
- Additional inspection rounds
- Local fire department completes monthly or quarterly inspections
- Local fire department completes a review of emergency plans
- Modified fire watch
- HVAC shut down tied to the fire alarm system
- Install complete sprinkler system
- Install a horizontal exit
- Additional staff training in emergency procedures
- Hands-on fire extinguisher training
- Practical and/or competency skills testing
- Additional fire drills for performance issues
- Request KSFM presentation during

Extensions

Extensions must be requested prior to the facility's timeframe for compliance. Waiver requests submitted after the initial plan of correction approval will only be approved on a limited basis and only due to extreme circumstances.

FIRE FACT 022 – FEDERAL WAIVER

Facility Types: Federal Healthcare

If a facility is unable to correct a deficiency within 30 days from inspection exit date, the facility may submit a waiver for an extension of time. OSFM will review and make determinations on waiver extensions of up to 6 months from inspection exit date. Any request for time that exceeds 6 months must be submitted to CMS for their determination.

Note: All waiver requests must be submitted along with the initial plan of correction response.

Submitting your waiver

The plan of correction must address how the deficiency will be corrected (as stated in the instructions above), however the facility must also address the deficiency on the waiver form. A separate waiver request form must be submitted for each deficiency that will not be corrected within 30 days. The following criteria must be documented on the waiver request form:

- Evidence the deficiency does not pose a hazard to the occupants
- How immediate correction would pose a hardship to the facility
- Indicate construction milestones (i.e. get bid by (date), have etc.)
- Additional safety measure correction

Additional Safety Measures

The facility must implement additional safety measures to compensate for the delay in correcting the original deficiency. Each facility must implement at least two additional safety measures for each waiver request. The following is a list of additional safety measures that have been approved. The facilities may also come up with their own additional safety measures.

- *Additional single-station smoke detection (REQUIRED)*
- Additional sprinklers/water curtain
- Safety rounds (dedicated person, all areas of the facility inspected for fire safety issues)
- Infrared inspection of motors and electrical panels
- Additional inspections or maintenance
- Local fire department completes monthly or quarterly inspections
- Local fire department completes a review of emergency plans
- Modified fire watch
- HVAC shut down tied to the fire alarm system
- Install complete sprinkler system
- Hire a structural/fire protection engineering firm to develop a plan of action
- Install a horizontal exit
- Additional training in emergency procedures
- Hands-on fire extinguisher training
- Practical and/or competency skills testing
- Additional fire drills for performance issues
- Request OSFM presentation during staff in-service

Extensions

Extensions must be requested prior to the facility's timeframe for submitting evidence of completion. Waiver requests submitted after the initial plan of correction approval will only be approved on a limited basis and only due to extreme circumstances.

Name of Facility:

City/State:

CCN#

Phone #:

Contact Name/Title:

Survey Date:

K-Tag:

Requested Waiver End Date:

Due Dates	Justification
Send information to your Fire Authority on the following dates	Evidence the deficiency does not pose a hazard to the occupants:
Milestones	How correction of the deficiency poses a hardship to the facility:
	Construction milestones:
Evidence of Correction (within 15 days of end date)	Additional safety measures implemented to compensate for the deficiency:
	Failure to follow the plan may result in waiver revocation and enforcement actions
Administrator (Signature)	Title
Corporate Office (Signature)	Title

FIRE FACT 023 – APPEALS PROCESS

This Fire Fact is for Kansas State “Routine” inspections. Federal inspections conducted OSFM staff are addressed under the Informal Dispute Resolution Fire Fact.

Occasionally a facility may feel like a violation has been cited incorrectly or that the violation was not an accurate interpretation of the code requirement. In these cases, the facility would need to submit an appeal to the Office of the State Fire Marshal's Office.

K.S.A 31-140 grants any person the ability to appeal any violation within 15 days from the date of the violation by filing a written notice of such appeal in the office of the state fire marshal.

The state fire marshal will review the appeal within 30 days after receipt and will make a final decision. Unless the violation is revoked or modified, the violation must be appropriately addressed within the normal timeframes of providing a plan of correction.

What is an Appeal

It's important to understand that an appeal is a written statement that you (the facility) think that the violation is inaccurate.

An appeal is not a method to:

- “Grandfather” a pre-existing,
- Avoid correction due to high cost (See Waiver)
- Delay correction for any reason (See Waiver)

Filing an Appeal

Facilities must submit the appeal on official company letterhead and must contain detailed information regarding the basis for the appeal. Facilities have two options when submitting an appeal: desk review or formal hearing. You must indicate which option you are requesting.

The information below must be provided within the appeal notice:

- Facility reference number
- Date of appeal notice
- Inspection date
- Violation being disputed
- Regulatory information supporting appeal
- Title and Signature of person submitting the appeal
- Further contact information

What about the Plan of Correction?

A written plan of correction is required to be submitted to OSFM within the original allotted timeframes regardless of if a facility is submitting or has submitted an appeal. Facilities must address the disputed violation as if the violation will be upheld. If a decision to revoke or modify the violation is made, then the facility will receive a new violation notice. However, if the violation is upheld, the facility's plan of correction will be ready for final approval.

FIRE FACT 024 – INFORMAL DISPUTE RESOLUTION

This Fire Fact is for Federal inspections conducted by OSFM staff. Routine inspections are addressed under the Appeals Process Fire Fact.

Upon completion of the Office of the State Fire Marshal inspection, a facility can make a request for an informal dispute resolution (IDR) to the State Fire Marshal within ten (10) calendar days after receipt of the statement of deficiencies. A facility may only request one informal dispute resolution per inspection.

The IDR process is an established two-tiered information dispute resolution process for deficiencies cited during an inspection, for compliance with federal law, pursuant to oversight by the Centers for and Medicaid Services.

What is an IDR

It's important to understand that an IDR is a written statement that you (the facility) think that the deficiency is inaccurate.

An IDR is not a method to:

- "Grandfather" a pre-existing, non
- Avoid correction due to high cost (See
- Delay correction for any reason (See

Request an IDR (First Tier)

Facilities must submit the request on official company letterhead and must contain detailed information regarding the basis for the dispute. Facilities have two options when submitting an IDR: desk review or meeting. You must indicate which option you are requesting. If you request a meeting, the meeting will be held at the Office of the State Fire Marshal's Office located in Topeka, KS.

The information below must be provided within the IDR request:

- Facility reference number
- Date of appeal notice
- Inspection date
- Violation being disputed
- Regulatory information supporting appeal
- Title and Signature of person submitting the appeal
- Further contact information

How does the IDR affect the Plan of Correction

A written plan of correction is required to be submitted to OSFM within the original allotted timeframes regardless of if a facility is submitting or has submitted an IDR. Facilities must address the disputed violation as if the violation will be upheld. If a decision to revoke or modify the violation is made, then the facility will receive a new statement of deficiencies. However, if the violation is upheld, the facilities plan of correction will be ready for final approval.

Review Period

The first-tier review or meeting will be conducted within 30 days of receipt of the written request. The facility will be notified in writing of the results. The facility may challenge the decision of the first review by requesting, in writing, a second tier review by requesting, in writing, a second-tier review.

Request an IDR (Second Tier)

Facilities must submit the request on official company letterhead and must contain detailed information regarding the basis for the continued dispute. The second-tier IDR will be conducted by a three (3) person panel appointed by the State Fire Marshal. The panel will consist of one employee of the State Fire Marshal's Office and two members outside the State Fire Marshal's Office.

The facility requesting a second-tier IDR will be charged a fee not to exceed \$250 to reimburse panel members for their time and travel expenses.

Review Period

The second-tier review will be conducted within 30 days of receipt of the written request. The facility will be notified in writing of the results.

Panel Authority

The decision of the panel shall be advisory to the State Fire Marshal only. Since these facilities are governed by Centers for Medicare and Medicaid Service, any decision made by the State Fire Marshal may be over-ruled by CMS.

FIRE FACT 025 – COMPENSATORY MEASURE

Existing buildings are allowed to remain in operation unless they have conditions considered “distinctly hazardous” to the occupants. A “distinctly hazardous” condition is generally defined as the lack of minimum exiting or other fire safety features that would not allow a speedy exit from the building.

How to request a compensatory measure

When a “distinctly hazardous” condition is identified by Office of the State Fire Marshal inspector, the owner or operator must provide documentation to provide a proposed corrective timetable to correct the identified problem, offer alternative fire safety features believed to provide equivalent protection, or apply for compensatory measures. If you are going to apply for compensatory measures, you must obtain a written and stamped professional judgment from a Kansas licensed architect or engineer.

Most common conditions

Traditionally the Office of the State Fire Marshal will consider a compensatory measure for the following three “distinctly hazardous” conditions in buildings:

- 1) Non-rated stair enclosures for buildings without fire escapes from every room
- 2) Dead-end corridor exceeding distance specified for the occupancy type
- 3) No basement atmospheric separation from other floors

Most common compensatory measures

The Office of the State Fire Marshal will review and consider professional judgments from a Kansas licensed architect or engineer. However, the most traditional compensatory measure is the installation of a complete or partial smoke detection system. This concept is based on the automatic early detection and notification of the occupants and their speedy evacuation prior to the exit way being obstructed by smoke. These compensatory measures may be considered as providing an acceptable level of life safety for an existing facility when **all** components (equipment, design, installation, and maintenance) meet or exceed NFPA 72 requirements.

The smoke detection system is typically acceptable when all of the following are provided:

- 1) Smoke detectors are installed.
- 2) The system is designed and installed in accordance with National Fire Protection Association (NFPA) 72- the national fire alarm code adopted in Kansas.
- 3) New equipment is powered from the building's electrical power.
- 4) Plans of the new or modified system are submitted to the Office of the State Fire Marshal for review and acceptance.
- 5) System will be **serviced, tested, maintained, and documented** as required by standards or by the Kansas Buildings Fire Safety Handbook (a minimum of an annual inspection and maintenance by **qualified person or firm**).

This acceptance is subject to a final inspection by an authorized representative of Office of the State Fire Marshal.

In any case, it is the facility's responsibility to initiate consideration and to maintain copies of any supporting documentation when accepted.

Office of the State Fire Marshal – Fire Prevention Division

Compensatory Measure Request of Specific Life Safety Code Provisions

Name of Facility:

Contact Name/Title:

City/State:

Phone #:

Inspection Exit Date:

Due Dates	Justification
Send information to KSFM on the following dates	Compensatory Measure requested:
Milestones	How correction of the deficiency poses a hardship to the facility:
<input type="text"/>	
<input type="text"/>	
<input type="text"/>	Construction milestones and date by which compensatory measure will be in place:
<input type="text"/>	<input type="text"/>
<input type="text"/>	
<input type="text"/>	
<input type="text"/>	Additional safety measures implemented (required if there is delay in providing required or compensatory measures):
Evidence of Correction (within 15 days of end date)	<input type="text"/>
<input type="text"/>	Failure to follow the plan may result in waiver revocation and enforcement actions
KS Licensed Architect/Engineer	Title <input type="text"/> Date <input type="text"/>
Facility Representative (Signature)	Title <input type="text"/> Date <input type="text"/>
KSFMO (Signature)	Title <input type="text"/> Date <input type="text"/>

FIRE FACT 030 – 1ST AND 2ND GRADE

With space and building restrictions in many schools, administrators have relocated classrooms containing daycare, preschool, kindergarten, and first and second grade students to areas of the building not permitted for these uses due to fire and life safety restrictions. We must periodically remind school administrators of long-standing fire and life safety requirements regulating the location of these classrooms.

Both the Uniform Building Code and the Life Safety Code prohibit classrooms containing kindergarten or first grade students to be located above the first story in new or existing buildings. Second grade classrooms cannot be located above the second story.

International Building Code, 2006 Edition does not have any restriction on the placement of students within the building. However, the code does require these facilities to be fully sprinklered. Therefore, if your building was constructed prior to January 1, 2011 you will be required to keep 1st and 2nd graders to the appropriate floors indicated by the Uniform Building Code and/or the National Fire Protection Association OR you may install a full sprinkler system.

Uniform Building Code requirements state: *"Special provisions. Rooms in Divisions 1 and 2 Occupancies used for kindergarten, first –or second-grade pupils....shall not be located above or below the first story, except for basements that have required exits at grade level. Exceptions: In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten first and second-grade children or for day-care purposes may be located on the second story, provided there are at least two exits directly to the exterior for the exclusive use of such occupancy."*

National Fire Protection Association requirements state: *"Rooms normally occupied by preschool, kindergarten, or first grade pupils shall not be located above or below the story of exit discharge. Rooms normally occupied by second-grade pupils shall not be located more than one story above the story of exit discharge."* Day Care Centers are permitted above the first story typically when the building is fully sprinklered.

Our policy on these classrooms in existing buildings is that they cannot be located more than five (5) vertical feet above or below the story of exit discharge. The story of exit discharge is defined as the story or stories from which the exits are primarily doors discharging directly outside at grade level or the story with the smallest elevation change needed to reach grade level.

KSFM RECOMMENDS

The restrictions on the location of rooms used by preschool, kindergarten, first grade or second grade pupils were developed to avoid the danger of older (and larger) children overrunning the very young on stairs or ramps during a fire or other incidents requiring rapid evacuation of a building. The requirements also recognize that young children may need assistance traversing stairs or may have to be rescued because of their size and limited motor skills. For this reason, OSFM recommends that all facilities, new and existing, keep 1st and 2nd grade students to the lower levels regardless of any code allowances.

FIRE FACT 031 – CHILDCARE CENTER & PRESCHOOL

Preschools and Childcare Centers provide learning experiences for children who have not attained the age of eligibility to enter Kindergarten. When inspecting these facilities for fire and life safety requirements the codes and state regulations are based upon how long individual children are at the location and age of the children.

Preschools typically include part-day head start centers, before and after school care, and latch programs. Both preschools and childcare centers can be located in schools or non-educational buildings.

Preschool- In order for a facility to be considered a Preschool by OSFM, all of the following conditions must be met:

- 1) All children are 2.5 years of age or older, and have not attained the age of eligibility to enter kindergarten, **and**
- 2) Sessions are not more than three hours per day,
- 3) Children are enrolled in only one session per day,
- 4) Meals are not served

If all these conditions are met, the facility is considered a 'preschool' and must meet EDUCATIONAL (Group E) requirements.

Childcare Center- If any of the following conditions are met, the facility is considered a Childcare Center by OSFM:

- 1) Provides care and educational activities for any children between the ages of two weeks and 16 years, **or**
- 2) Sessions last between three hours and a full day,
- 3) Care is provided for more than 4 hours and less than 24 hours per day

If any of these conditions are met, the facility is considered a 'childcare center' and must meet CHILDCARE (Group I4) requirements.

Childcare centers, especially those with children under 2.5 years old, must meet a greater fire and life safety burden than educational occupancies. Because of the younger children and their inability to preserve their own life in the event of an emergency, more stringent requirements are in place to compensate.

Although local jurisdictions may impose greater requirements than those set by the Office of the State Fire Marshal, they cannot approve less than what is required by OSFM. The facility owners and operators are responsible for insuring state and local requirements are met.

Childcare Centers and Preschools (including Head Start and school-age programs)

All childcare centers and preschools must be approved before opening. In the case of programs not regulated by KDHE and located inside existing schools, this approval must be obtained through the Kansas Department of Education (KSDE). Facilities should retain the written approval from KSDE for the life of the program. A change in location, even within the same building, will require new approval from KSDE.

Most childcare centers and preschools will be licensed through the Kansas Department of Health and Environment (KDHE), including some programs located in schools. To determine if your facility requires licensing through KDHE, contact the agency or your local health agency directly.

Office of the State Fire Marshal – Fire Prevention Division

Fire Marshal Approval and KDHE Licensing (Centers & Preschools)

Facilities licensed by KDHE are required to submit “fire marshal approval” with their initial licensing materials. This approval is obtained through submitting plans to the Office of the State Fire Marshal (OSFM). This approval must also be submitted to KDHE for license amendments, such as an increase of children, use of a new room, change in ages, and change in ownership or facility name. The amount of information that must be submitted depends largely on the number and ages of children to be cared for. To obtain “fire marshal approval,” you must submit plans to the Office of the State Fire Marshal.

What to Submit	Less than 24	24 or More
Request for Review (C.2.2)	X	X
Compliance Attestation (C.2.2.A)	X	X
Sealed Drawing	X	X
Code Footprint		X

After plans are approved, an approval letter will be sent to the facility. This approval letter must be submitted with the licensing paperwork. An initial inspection will also be scheduled. Copies of all documentation, including inspection paperwork, must be kept by the facility.

Scaled Drawing:

These drawings can be done by the facility owner or operator. It must be drawn to scale and must clearly show:

- All rooms being used for licensure
- Number of ages of children in each room
- All exit pathways out of the building
- Dimensions of all rooms being used
- Locations of doors and windows for rooms being used
- Type of construction (wood frame, metal/block, etc.)
- Location of hardwired smoke detection (battery-operated detectors are not acceptable)
- Location of emergency lighting
- Location of basement or second floor
- Picture of the facility (outside and primary use areas)

Code Footprints:

These are complex drawings that must be completed by a Kansas-licensed architect or design engineer.

Name or Ownership Changes

If the only change being the name or ownership of the program, a written request for approval of the change should be submitted to OSFM. The request should include both the old name/owner and new name/owner. The letter should also clearly state that no changes will be made to either the programs or building. In the event changes *are* being made, plans will need to be submitted for review. In addition to the request for change, a photocopy of an approved inspection within the past six months, conducted by either the OSFM or local jurisdiction, must be submitted with the request. An approval letter will then be sent back to the facility for submission to KDHE.

Annual Inspections

Childcare centers and preschools will receive an annual inspection from the local jurisdiction (the local fire department) or from the OSFM. Copies of these inspections are required by KDHE for licensing. The inspection criteria can be found in 2006 International Fire Code regarding either Group I4 for childcare centers or Group E for Preschools.

FIRE FACT 032 – FOSTER CARE

Foster care in Kansas is primarily regulated by the Kansas Department of Health and Environment. Traditionally, these foster care homes provide care for less than 6 children in a single residence. Office of the State Fire Marshal will not inspect foster care homes where fewer than six children are being cared for.

In order to accurately classify these occupancies for OSFM inspection guidelines, you must understand some of the key definitions.

Foster Care:

A building or part of a building housing 6 or more foster care children and the children are capable of self-preservation measures.

Based off the International Codes
Group R-3: Small foster care (6-16)
Group R-2: Large foster care (more than 16)

Non-Traditional Foster Care:

Facilities providing infant care and care for the physically and mentally challenged. These homes may have additional fire and life safety requirement such as those required for Residential Board and Care or Childcare.

Different requirements will apply depending upon the number of individuals living in a home or other residential setting, the level of support those children would need in the event of a fire or other emergency; and whether the current usage of the facility constitutes an "existing" or "new" operation.

New facility: *(Must comply with 2006 (International Building Code))*

A facility is considered to be "NEW" if one of the following is met.

- New building or portion of a new building used for foster care after Jan 1, 2011
- Additions made to, or newly used as, foster care
- Major alterations, modernizations, or renovations of existing foster care
- Change of occupancy inside an existing buildings or portions thereof to a foster care

Existing facility: *(Must comply with 2006 (International Fire Code))*

A facility is considered to be "EXISTING" if the building or portion thereof is/was occupied as foster care occupancy prior to January 1, 2011.

As with every type of facility, facilities providing foster care should consult with local building officials, code officials and fire departments for additional requirements, restrictions, or zoning requirements.

FIRE FACT 033 – HOME DAYCARE

One goal of the Office of the State Fire Marshal is to insure that all providers of home daycares are prepared in the event of a fire emergency. There are over 5,000 structure fires each year in Kansas. Over 70% of those fires, and 75% of the fire deaths that result, happen in homes. This is why fire safety awareness is so important.

BIG FIRES START SMALL. In less than four minutes a small waste basket fire can spread throughout the average sized home, causing enough smoke to keep everyone inside from being able to get out safely. Smoke is the main killer in a fire because of the toxic gases that are released from the burning materials. Smoke will disable you before the flames ever reach you.

As a child care provider, you accept legal responsibility for providing a fire-safe home for everyone in your care. You are ensuring that everyone can be evacuated from your home to a safe place outside of the home in the event of a fire.

Office of the State Fire Marshal Requirements for Child Care Homes

New Home Daycare

As a new home daycare provider you must complete the Fire and Life Safety Agreement (FLSA-2 pages) that is part of this fire fact but can also be found on our webpage under "Facility Information: Home Daycare".

You will fill out the information on the 1st page and retain the 1st and 2nd page until a fire official arrives to conduct the fire inspection. The fire official will complete the 2nd page. You will post the 1st and 2nd page in an easily accessible location.

Important: You are responsible for keeping the original fire official inspection for the duration of your licensure. So make sure to keep it in a safe place.

Existing Home Daycare – Renewal

Each year you are required to "renew" your Fire and Life Safety Agreement (2 pages). However, a fire official may or may not actually return to your home to conduct the fire inspection. If the fire official for your area does not conduct annual fire inspections, you will be required to conduct the inspection (page 2).

When conducting a self-inspection you need to indicate any deficiencies and document your correction. By signing the FLSA, you are legally stating you have conducted the self-inspection and that all issues are cited and are corrected. This is not something to be taken lightly, nor is it appropriate to just fix all the issues and not document the violation. Fire officials have conducted these inspections for many years and we understand that all homes occasionally have issues. The goal is to identify the issues and correct them.

Once the FLSA is complete, you will check the renewal affidavit and sign and date the bottom. You will also fill in the date of the original fire official inspection; however the fire official signature spot will remain blank. You will post the renewed/current FLSA. The original FLSA that was conducted by the fire official must be stored away for safe keeping for the duration of the licensure.

FIRE REQUIREMENTS

It is your responsibility as the provider to check these requirements daily to ensure you are providing a fire safe environment.

Care is provided in a structure designed and used as a one or two family dwelling

If care is being provided in a church, school, commercial building, or anything else that is not a home, the requirements for childcare centers or preschools must apply.

Care is provided on main level and has two remote exits

These escape routes must lead to a place of safety outside your home. The exits must allow you and all other occupants to safely get out of your home within four minutes. You must have two remote exits. Remote is typically determined by $\frac{1}{2}$ the vertical distance of the space.

100ft is the vertical distance

50ft is $\frac{1}{2}$ the vertical distance

As long as the 2nd exit is at least 50 ft. apart it would be remote

Primary or secondary means of escape does not exit through hazardous areas

The escape route leading to the exit doors (primary or secondary) must not lead through garages, storage rooms, or other hazardous areas. A kitchen would not typically be considered a hazardous room unless there are large amounts of combustible storage.

Main floor exiting

One exit must be easily walked to and lead directly to the outside. The second exit must allow you to walk or crawl directly to the outside. This second exit may be a compliant rescue/ventilation window. Whether the second exit is a rescue/ventilation window or a door, the exit path must continue to ground level.

Basement existing

If your basement will be used for child care, two separate exit paths must be provided. One exit will be the stairs leading back to the main floor. The second exit may be another set of compliant stairs leading to the main level, a rescue/ventilation window to the outside, or a door that leads directly outside and continues to ground level. Any window used for exiting must meet the requirements for a rescue/ventilation window.

Second floor exiting

If your second floor will be used for child care, two separate exit paths must be provided. One exit will be stairs leading back to the main floor. The second exit may be another set of compliant stairs leading to the main level or a door or rescue/ventilation window that leads directly outside. Ladders of any type from a second floor window are not acceptable. Windows MAY lead to decks or platforms, but it is not required. However, approval must be obtained from the local fire department to ensure they have access to that window for rescue operations.

Childcare cannot be located above the second floor.

Office of the State Fire Marshal – Fire Prevention Division

Every required exit door can be easily opened from the inside during hours of operation

All required exit doors must be easily opened. Any locks or latches that would restrict the ability to open the door with one motion is prohibited. A lock that functions as a latch or other fastening device so as to require no tools/keys and only one operation to release" is permitted.

Children must be able to open every closet and bathroom door from the inside at all times

Children could easily become trapped in a closet or bathroom. If there is a lock on the door, the key or tool required to unlock the door must be readily accessible (i.e. hung by the door). For closets containing household cleansers, chemicals, or other items dangerous to children, a hook-and-eye closure at the top of the closet door will be permitted, as long as children are unable to access the closure.

Every escape path is clear of obstacles and all doors are in proper working condition

This is one of the most difficult requirements to apply in a residential environment. Ideally, all of your hallways and egress paths would be completely clear of obstacles to include furnishings, lamps, decorations, etc. However, this is your home and you are allowed to maintain it as such. With that in mind, you need to take a look at your main egress paths and think about what would be a tripping hazard or an obstruction. Items such as plant stands, stacked items, car seats, large pieces of furniture, etc. would all become tripping hazards or obstructions during an emergency.

Smoke detectors must be installed and maintained on every level of your home

The smoke detectors must be powered by the home's electrical supply or by 10-year lithium batteries. They must be located in every exit pathway and in each sleeping room used for children in your care. Regardless of how they are powered, the smoke detectors must be tested monthly. The tests must be recorded and documentation kept on file.

Current Fire and Life Safety Agreement Posted

Each year you must post the current Fire and Life Safety Agreement. You must retain the original fire inspection that was conducted by the fire official in a file/folder for safe keeping for the duration of your licensure.

Emergency procedures must be written down and practiced

Fire drills must be done monthly and documented, and the evacuation time must be less than four minutes. Tornado drills must be practiced monthly April through September and documented. Practice fire and tornado drills at different times of the day, regardless of weather, so that in the event of a real emergency you will be prepared to get everyone in your care to a place of safety.

How to conduct a fire drill:

- 1) Use the test button on your smoke detector to sound the alarm
- 2) Be able to account for all those in your care at all times
- 3) Keep anyone from re-entering the home or being injured by an outdoor hazard
- 4) Once you get everyone to the place of safety, make a note of the elapsed time and record it and the other requested information on your Tornado and Fire Drill Record

Note: *If you have children on the second floor, you must occasionally practice the use of the rescue/window. That means you direct the children to go to the window, release the window mechanism (you do not have to totally open the window), and pretend to wait for rescue at the window.*

In an actual emergency, always call the fire department from a neighbor's home after everyone in your care is out of your home. Then allow the trained emergency personnel to do their job. Never reenter a burning home to try to extinguish the fire.

Office of the State Fire Marshal-Fire Prevention Division

All unused electrical outlets in the licensed area must have child-resistant protective covers.

These protective covers help protect the more curious kids from possible electrical shock. The covers must be in place on all unused electrical outlets within the licensed area. It does not matter if the outlet is located high up on the wall or above a countertop. It must be protected.

All natural gas, kerosene, wood, propane heaters, etc., are properly vented to the outside.

Unvented heaters are acceptable, but if the heater was designed by the manufacturer to be vented to the outside, it must be properly vented.

Barriers from all heating devices

Barriers must prevent the children from getting too close or being burned. This applies to fireplaces (both wood- and gas-fueled), furnaces, floor heaters, and water heaters. You will be required to provide the barrier even if you do not plan to use the heating device.

F.A.Q's

Are basement access doors (hatch type) permissible to be used as an exit from the basement?

No. The door pictured below is not approved as an acceptable exit from a basement. This type of door is subject to snow loads, falling debris, and being locked, blocked, or vandalized in some manner. Additionally, children attempting to evacuate this lower level space may not be able to operate the locking arrangement and the door may be too heavy to push to initiate the spring assists.



I have stairs and small infants, can I use a baby gate?

Baby gates are a "necessary evil". If the baby gates open with not much more difficulty than a standard door, then it will be judged to be ok. OSFM recommends using the hinged baby gates so it won't become an obstruction by falling on the floor or becoming displaced.

I have a garage but we do not park our cars or store fuel equipment in the garage, can it be an exit?

No. If there is the ability to pull a car into the garage or store fuel powered equipment such as lawn mower, etc. then it will remain classified as a garage and is prohibited from being used as a primary or secondary exit. However, if you remodel the garage (i.e. remove the door, sheetrock, install carpet, etc.) and turn it into addition living space, then yes it would be permissible to be used as an exit.

Our secondary exit leads to a fenced back yard. Can the gate be locked?

This can be tricky because the gate becomes a part of the egress path. This gate would need to meet all the same locking requirements as an interior exit door. However, OSFM will allow the gate to be locked only if all occupants can get more than 50ft away from the house while still inside the fenced area.

State Fire Marshal
700 SW Jackson, Suite 600
Topeka, KS 66603-3714

Doug Jorgensen, State Fire Marshal



phone: 785-296-3401
fax: 785-296-0151
www.ksfm.ks.gov

Sam Brownback, Governor

FIRE AND LIFE SAFETY AGREEMENT INITIAL APPLICATION AND ANNUAL RENEWAL FORM

Check One: ☐ Group Day Care Home ☐ Licensed Day Care Home

Check One: ☐ Initial License ☐ Annual Renewal _____
(License Number)

I, _____ have provided the following:
(Print your name as it is listed on your license)

I understand that I am responsible for meeting the fire and life safety codes to protect all persons in my home under my care from fire.

I have contacted my local fire department and building/zoning official and have met all local fire safety requirements. This year I notified the fire department closest to my home that I do child care in my home. The fire department I notified was: Fire Department Name _____ FD Phone Number _____

I understand that my basement or second floor can NOT be used for child care until I have written approval on file from the State/local fire officials. Once approved the basement may **ONLY** be used for child care if there are at least two separate and remote exits to the outside, only **ONE** exit can be an approved escape window.

I understand that I must be able to demonstrate that I can get everyone under my care, safely out of my home to a designated safe place within 4 minutes, and that I may be asked to demonstrate this ability in a fire exit drill. If children are located on the second floor, children must occasionally practice the use of the approved second floor fire escape window by going to the window and waiting for rescue.

I have working smoke detectors installed according to the manufacturer's instructions on every level of my home in the pathways leading directly to the outside and in each sleeping room used by children in my care. My smoke detectors are tested monthly and records are kept for review. My smoke detectors are powered by 10-year lithium batteries or are hard-wired with battery back-up.

I have a written emergency plan for use in case of fire. All persons responsible for the care of children in my home are familiar with my emergency plan and can get the children safely outside to the designated safe place.

I understand all areas of my home may be inspected at any time by State/local officials to determine compliance with this Agreement.

I understand that an on-site inspection conducted by State/local fire officials may only occur once in the lifetime of the license. I understand that it is my responsibility to conduct an annual review of all fire and life safety code requirements.

I agree to follow all fire and life safety codes and standards as outlined within the Fire and Life Safety Agreement and as directed by the State/local fire officials when an on-site inspection is conducted.

I understand that a copy of this Agreement must be posted next to my license at all times.

I understand by signing this Agreement I have met all the requirements stated in this document. I understand that if inspected and found to be in violation, I may be subject to criminal or administrative action.

Page 2 of 2

FIRE AND LIFE SAFETY AGREEMENT INITIAL AND/OR ANNUAL FIRE INSPECTION GROUP AND LICENSED CHILD CARE HOMES

NAME:		PHONE:	
ADDRESS:			
CITY/STATE/ZIP:			

- | | MET | NOT MET | NA |
|---|--------------------------|--------------------------|----------------------------|
| - Child care provider is in a structure designed and/or used as one or two family dwelling. Day Care Center requirements <u>must</u> apply if in an apartment, church, commercial building, or other area. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Child care is on main level and has two remote compliant exits. (Secondary exit may be stairs a compliant Rescue/ventilation window or door leading directly to the outside) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Child care is in the basement area and has compliant exiting. (Secondary exit may be a compliant stairs leading to the main level, Rescue/ventilation window or door leading directly to the outside) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Child care is on the second floor and has compliant exiting. (Secondary exit may be a compliant stairs leading to the main level, Rescue/ventilation window or door leading directly to the outside) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Primary or Secondary means of escape does not exit through any hazard area. (Garage, storage, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Every required exit door can be easily opened from the inside at all times when the facility is operating. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Every ESCAPE PATH including all stairways is clear of obstacles and all doors are in proper working condition. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Working smoke detectors are located in every exit pathway, in each sleeping room used for child care. Single-station smoke detection hardwired to the electrical system with battery back up or ten year lithium battery detectors shall be required for initial inspection (Licensed after January 1, 2003). Existing providers, previously licensed before January 1, 2003 may continue with battery detectors. | <input type="checkbox"/> | <input type="checkbox"/> | Install Date of Det: _____ |
| - Smoke detectors are tested monthly and records are kept on file for review. | <input type="checkbox"/> | <input type="checkbox"/> | Install Date of Det: _____ |
| - Copy of the current FIRE/LIFE SAFETY AGREEMENT is posted next to license. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Children can open every closet door from the inside at all times. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Written emergency procedures for fire evacuation are provided and practiced monthly. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Monthly fire drills are documented. Drills shall be conducted and evacuation times shall be within 4 minutes. Inspector may ask the operator to demonstrate ability to conduct such a fire drill in his or her presence. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Written emergency procedures for tornadoes are provided and practiced monthly April through September. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - Every bathroom door can be unlocked from the outside at all times. The unlocking key/device is readily accessible to the provider. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - All unused electrical outlets (in licensed areas) have child-resistant protective covers. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - All natural gas, kerosene, wood, propane heaters, etc., are properly vented to the outside of the home. | <input type="checkbox"/> | <input type="checkbox"/> | |
| - A barrier that prevents children from getting too close or burned protects all heating devices. | <input type="checkbox"/> | <input type="checkbox"/> | |

DATE OF FIRE OFFICIAL INSPECTION: _____ FIRE OFFICIAL SIGNATURE: _____

ANNUAL RENEWAL: I declare that the Fire and Life Safety Agreement has been examined by me and to the best of my knowledge and belief is a true, correct and complete attestation of my compliance with fire codes as required by Kansas law. I understand that failure to comply with Kansas fire codes may result in fines or a cease and desist order pursuant to K.S.A. 31-139 and K.S.A. 31-159.

If you agree with the statement above please check the box, sign your name and provide the date that you reviewed the agreement.
☐ I have read and understand the above declaration

DATE OF ANNUAL REVIEW: _____ PROVIDER SIGNATURE: _____

FIRE FACT 034 – RESCUE WINDOW

In some occupancies, there is a need for emergency escape and rescue windows. Because these windows often times take the place of a normal exit door, it's important to remember that the means of egress from a rescue/ventilation or escape window does not end at the window. There must be a way to safely get from the window to a place of safety. Be sure to monitor and maintain landscaping, fences, and outdoor storage that may block or prevent evacuation.

Emergency Escape and Rescue Window Requirements

Minimum clear opening must equal or exceed 5.7 square feet or 821 square inches.

MINIMUM APPROVED OPENING SIZES (inches)

WIDTH x HEIGHT = 821 square inches

20 x 41.2 28 x 29.32

22 x 37.31 30 x 27.36

24 x 34.2 32 x 25.65

26 x 31.57 34.2 x 24

Maximum distance of window sill off floor is 44 inches.

Escape window shall be operational from the inside without the use of keys or tools.

Escape window should not have a screen to obstruct use in an emergency. If provided, a screen must be easily removed from the inside.

Considerations for other than main floor

Basement or level partially below grade:

If the window leads to a window well, the well should be a minimum of 9 square feet in an area with a minimum of 36 inches on each side. If the window well is more than 44 inches deep, a stair or ladder is required. It shall be permanently affixed to the side of the window well, extend no more than six inches into the window well space, and should not be obstructed by the window.

A covering may be used over the window well as long as the force required to remove the covering is about the same as would be required to open the window. The covering cannot be bolted down, although one side can be hinged.

Second floor or level above grade:

Ladders are **not** an acceptable way to descend from a rescue/ventilation window. Ladders of any sort, whether rescue or permanently affixed, will not be accepted by the Office of the State Fire Marshal. Your local jurisdiction may require rescue/ventilation windows to lead to decks or platforms that descend to grade by way of steps; especially if they are unable to conduct rescue operations at the designated window.

FIRE FACT 035 – PROPANE

The Kansas Propane Safety and Licensing Act was put into law by the 2004 Legislature. The Act requires those businesses who deal with liquefied petroleum gas to obtain licenses for their particular activity, submit plans for new installations, and maintain records which will be reviewed and approved by the Office of the State Fire Marshal.

There are 8 classes of licenses

Class 1 Dealer: Required for the retail distribution of liquefied petroleum gas

Class 2 Bulk Storage: Required for the bulk storage of liquefied petroleum gas

Class 3 Cylinder Transport: required to operate a cylinder delivery

Class 4 Cylinder Filling: required to operate a cylinder filling facility

Class 5 RV/Mobile Filling: required to fill recreational vehicles or mobile fuel containers

Class 6 Cylinder Exchange Cabinet: Required to participate in cylinder exchange program.

Class 7 Self-serve Dispensing: Required to operate a liquefied petroleum gas fueling facility

Class 8 Installation and service: required to install, maintain, or modify a residential or commercial liquefied petroleum gas distribution and

TO BECOME LICENSED:

A business must submit a written or electronic application to the Office of the State Fire Marshal with the following enclosures for each certification class.

- (1) An application for each desired license;
- (2) proof that the training requirements in K.A.R. 22-8-11 for each desired license have been met;
- (3) proof of continuous general liability insurance coverage of at least \$1,000,000; and
- (4) a onetime, nonrefundable initial application fee of \$25

An annual on-site inspection will be conducted to insure that the facility is in compliance with the applicable codes, regulations, and statutes.

TRAINING

Office of the State Fire Marshal does not provide the required *Certified Employee Training Program* (CETP) training. It is the marketer's responsibility to locate and obtain the training. CETP is a program offered through the National Propane Gas Association and they have a listing of locations that offer the training.

For certification applications or for more information, call the Office of the State Fire Marshal at (785) 296-3401.

Office of the State Fire Marshal – Fire Prevention Division

F.A.Q's

Why is the State of Kansas regulating the propane industry, when they've been operating without it up until this point?

The propane industry requested to be regulated by the state in order to promote safety and standard compliance across the state. Kansas is one of the last states to have regulations in place and we have some of the lowest fees of all the states.

Are out-of-state propane suppliers required to be licensed under the Kansas Propane Safety and Licensing Act?

Yes, if an out-of-state propane company is delivering residential propane or conducting any kind of retail propane operations in the state of Kansas, they are required to be licensed according to the activity being conducted.

Are all HVAC and plumbers required to obtain a Class 8 license if they work on LPG appliances?

Technically yes, however, if through their own trade group they have achieved a master level certification, then they and the company they work for would be exempt from this requirement. This is due to the fact that their master level certification requirements exceed that of which is gained through CETP.

How many gallons would qualify a tank as Bulk Storage Tank?

2,000 gallons or greater is considered bulk storage.

Do I need to fill out a Class 6 license for every cabinet I own?

A license is required for every cabinet but you don't have to fill out multiple applications. Just fill out the first application and then attach a separate sheet of paper or printout of all the additional locations and how many cabinets are at each site.

If I fill only one or two recreational vehicles a year, do I need a Class 5 license?

Yes, the Class 5 license is required of any facility fueling recreational vehicles or mobile fuel containers

Should customers be allowed to fill their own portable propane tank at the convenience store?

No. There is currently no company in Kansas that is licensed to allow customers to fill their own portable propane tanks. This must be conducted by the store operators who are properly trained.

What are the requirements for the facility sign?

The sign must be posted and readily visible upon entrance to the facility. The sign must contain the facility name, address, class 1 license number, and emergency contact information.

Example:

OFFICE OF THE STATE FIRE MARSHAL
12345 MAIN ST
TOPEKA, KS 66603

ER CONTACT
800-555-1212

3 INCH LETTERS

SN60T152

FIRE FACT 036 – PUBLIC ASSEMBLY EVENTS

Indoor public events at schools held after regular hours, whether sports, drama or academic gatherings, bring large numbers of occupants and an increased risk of incident. **Regardless of who is holding the event, THE BUILDING OWNER IS RESPONSIBLE for providing adequate fire and life safety for those attending or participating.**

Steps shall be taken **before the event** to verify that all required exits are operable, accessible, and in good working order. This means no blocked access, storage, or junk accumulated in exit corridors. Verify that the building's fire alarm is on and operable. Proper emergency light and/or generator tests shall have been conducted and documented within specified timeframes to make sure they will be operable during the events. Verify that written instructions covering emergency procedures, exiting, or emergency shelter procedures, including pre-written announcements for fire, severe weather or bomb threat situations are available to event announcers. In situations where severe weather is possible, staff and usher shall verify that shelters are accessible and are ready for use.

At events attended by more than 300 persons (not including school assemblies which are not open to the general public), **either** a voice announcement shall be made at the beginning of each event **or** a written notice provided in programs, stating: "*In accordance with Office of the State Fire Marshal regulations, we request that you take a moment to identify the two emergency exits closest to you. We have checked these exits and other equipment in this building and verify they are available for use in case of emergency. In case of an emergency, pay close attention to the announcer or your usher for important life safety information.*" or equivalent language.

At events attended by more than 1,000 persons, trained crowd managers/ushers shall be provided at a ratio of at least 1 crowd manager for every 250 occupants. The level of training requirements will vary from facility to facility; however, basic training should include familiarization with fire and tornado alarm sounds, knowledge of exit and storm refuge locations, and appropriate behaviors during an emergency.

During the event, no vehicles shall be parked in a manner that will block the safe total exiting of occupants from any exit door. **At no time can more than the set maximum number of occupants be admitted to the event.** Aisles and corridors shall be maintained and shall be blocked by chairs, tables, or spectators. Ushers shall be aware of procedures and responsibilities in case of fire or other panic situations.

Every year many public assembly events occur in Kansas schools without incident; however, these items provide an increased level of safety in the event something goes wrong.

Office of the State Fire Marshal

Fire preparedness begins before the event

School administrators shall verify:

- that all exits are operable, accessible, and in good working order;
- the building fire alarm is on and operable;
- proper emergency lighting and/or generator tests shall have been conducted and documented to insure they will be operable during the events.

Written plans shall be provided covering emergency procedures, exiting, and emergency shelter procedures. These shall include pre-written announcements for fire or severe weather and are available to event announcers. Additional plans may be developed to address bomb threats.

Crowd control for events attended by more than 300 persons.

A voice announcement shall be made at the beginning of the event OR a written notice in the event program stating; “ In accordance with Office of the State Fire Marshal regulations, we request that you take a moment to identify two emergency exits closest to you. We have checked these exits and the other emergency equipment in this building and verify they are available for use in case of an emergency. In the case of an emergency, pay close attention to the announcer for information.” Equivalent language must be provided for each facility or event.

Events attended by more than 1,000 occupants shall be provided with trained crowd managers/ushers at a ratio of one crowd manager for every 250 occupants.

The level of training requirements will vary from facility to facility.

Basic training should include: familiarization with fire and tornado alarm sounds; knowledge of exit and storm refuge locations; and appropriate behaviors during an emergency.

FIRE FACT 037 – RESIDENTIAL BOARD AND CARE

Residential Board and Care homes provide some of the diverse characteristics out of all the occupancies that are regulated by Office of the State Fire Marshal. This diversity makes it very difficult for inspection staff to uniformly apply the adopted codes, rules, and regulations; not to mention the confusion that exists amongst the community developmental disabilities organization, licensed community service providers, and other agencies and individuals who provide services or care to adults with developmental disabilities.

In order to accurately classify these occupancies for inspection guidelines, you must understand some of the key definitions

DEFINITIONS

Residential board and care facility: A building or part of a building housing individuals, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services.

Based off NFPA 101, Life Safety Code

Residential Board and Care Large = Housing of 17 or more persons, on a 24-hour basis

Residential Board and Care Small = Housing of 16 persons or fewer, on a 24-hour basis

Resident: A person who is receiving supervised personal care on a 24-hour basis.

Personal Care: The care of residents who do NOT require chronic or convalescent medical or nursing care.

Examples of personal care: ensuring environmental safety, daily awareness, supervising nutrition and medication, scheduling and reminding of appointments, and transient medical care.

Examples of nursing care: chronic disease/illness management such as breathing ventilators, feeding tubes, infirm or bedridden patients, or hospice care.

Ambulatory: Having the physical and mental capability of getting in and out of bed and walking in a normal path to safety in a reasonable period of time without the aid of another person. Non-ambulatory persons shall not be allowed as residents.

New facility:

A facility is considered to be “NEW” if one of the following is met:

- New building or portion of a new building used for residential board and care
- Additions made to, or newly used as, residential board and care occupancies
- Major alterations, modernizations, or renovations of existing board and care occupancies
- Change of occupancy inside an existing building

Existing facility:

A facility is considered to be “EXISTING” if the building or portion thereof is/was occupied as a residential board and care occupancy prior to February 1, 2011.

Office of the State Fire Marshal

F.A.Q's

Our State Licensing Agency does not refer to us as Residential Board and Care?

Residential board and care facilities may be referred to in a variety of names, depending upon which agency is licensing the facility. Residential board and care may include the following:

- Home plus facilities
- Assisted living or Limited Care Facilities
- Any group housing for residents that provides supervision and/or personal care services, whether that housing is owned or rented by the residents
- Any group housing for the elderly that provides personal care services but does not provide nursing care
- Any group housing for residents who, during the daytime hours, attend school, worship or other activities
- Facilities for social rehabilitation, alcoholism, drug abuse, or mental health problems that contain a group housing arrangement and that provides personal care services but does not provide nursing care

What are our Fire Drill requirements?

Fire and evacuation drills shall be held six (6) times per year on a bi-monthly basis with not less than two (2) drills conducted at night while residents are sleeping. The fire drills shall involve the actual evacuation of all residents to an assembly point, as specified in the emergency plan. The drills shall be recorded and must show how much time is taken to reach a point of safety and what time of day, the location of the simulated fire origin, the escape paths used and count of residents who resisted or failed to participate in drills.

We have been in operation for a couple years but were just now notified that we need a fire inspection. Are we considered new or existing?

If the facility is/was occupied as a residential board and care occupancy prior to February 1, 2011 OSFM will allow the facility to be inspected as an existing facility. However, once the facility makes a significant change, such as increasing the number of residents or major renovations, then the facility will be required to meet the requirement of a new facility.

If the code requires our facility to be sprinklered, do we have to retroactively install a sprinkler system?

If the facility is/was occupied as a residential board and care occupancy prior to February 1, 2011 OSFM will allow the facility to remain in operation without a sprinkler system, unless the facility has conditions that would constitute a "distinctly hazardous" situation. However, once the facility makes a significant change such as increasing the number of residents or major renovations, then the facility will be required to meet the requirements of a new facility which would include the installation of a sprinkler system.

Is there a minimum number of residents required before we have to have a fire inspection?

K.A.R. 22-11-8 starts the OSFM requirements at one or more clients. The 2006 edition of NFPA 101 Life Safety Code, chapters 32 for new or 33 for existing, will be the code reference used for conducting fire inspections.

FIRE FACT 038 - EDUCATION CORRIDOR SEPARATION

In Kansas, many of our education buildings were built prior to 1950. Unfortunately, this means many of these buildings were constructed prior to the large fires and subsequent lessons learned that make up the foundations of the current fire codes. Additionally, as new information and technology becomes available, the fire codes continue to update the minimum level of fire safety that is required for all occupancies.

This disconnect between when the buildings were built and the current fire code requirements has become an issue particularly in regards to corridor separation.

Summary of Code Requirements

NFPA 101, 1991 Edition: (Effective May 1993-February 2011)

11-3.6.1 Every interior corridor shall be constructed of fire barriers having not less than 20 minute fire resistance rating.

Exception 1: *All spaces normally occupied by students have at least one door opening directly to outside.*

Exception 2: *Buildings protected throughout by an approved automatic sprinkler system and walls and ceilings resist the passage of smoke.*

IFC, 2006 Edition: (Effective February 2011)

1017.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1017.1 Table 1017.1 for Group E: Without Sprinkler System: 1 hr. / With Sprinkler System: No rating

Exception 1: *Where each room that is used for instruction has at least one door directly to the exterior and rooms for assembly have at least one-half of the required means of egress doors opening directly to the exterior.*

OSFM ENFORCEMENT

If your corridor does not comply with the minimum required corridor separation, you will be cited for that deficiency. You will continue to be cited for the deficiency during every subsequent inspection until the corridor is corrected to meet the minimum requirements.

FACILITY OPTIONS

- 1.) Provide a properly rated corridor that meets the minimum fire resistance rating, or
- 2.) Provide alternative protection as a compensatory measure such as interconnect smoke detection throughout all affected non-compliant corridors, or
- 3.) *Provide a letter from a Kansas licensed architect or engineer stating that the current corridor does not lessen the health, life and fire safety requirements.

* The ability to provide a letter from a Kansas licensed architect or engineer stems from the International Fire Code, Sections 104.7.2 and 104.8 which states "Whenever there are practical difficulties involved in carrying out the provisions of the code, the fire code official shall have the authority to grant modifications for individual cases"

Letter Requirements:

- Letter must be stamped and sealed by a Kansas licensed architect or engineer
- Letter must be kept on-site
- The facility must obtain a new letter every 5 years
- The letter must provide information regarding how compliance with the code is impractical
- The letter must state "The current rating of the corridors does not lessen the health, life and fire safety requirements for any occupant within the building"

IMPORTANT: If a facility chooses to provide a letter, the letter will only be acceptable until the facility undergoes a major renovation or remodel. The facility will be required to come up to full compliance with the NEW section of the code at that time.

MEANS OF EGRESS

FIRE FACT 040 – EXITS

Kansas Statute Annotated 31-133 gives the Office of the State Fire Marshal responsibility for promulgating regulations to govern the maintenance and construction of exits in all buildings in Kansas other than one and two family dwellings. Historically, the most significant loss of life in buildings from fire is when exits are locked, blocked and/or obstructed. Fire prevention inspections have documented a disturbing number of exit obstructions in schools, colleges, health care, and assembly areas in the state of Kansas.

The ability to escape a building in an emergency is the most important life safety issue.

The Kansas Fire Prevention Code, International Building Codes, International Fire Code, and the Life Safety Code provide guidance for the construction and maintenance of exit systems in buildings. The exit system includes the exit access (corridors), the exit door, and the exit discharge.

These codes rank exits by level of importance to the occupant's safety. The highest priority is given to exits serving the largest number of occupants and the lowest priority to those exits which serve the least numbers of the total building capacity.

The ranking of exit features in order of priority is below:

- 1) Building exiting at ground level serving all occupants
- 2) Stair enclosures serving occupants above and below ground level
- 3) Protected stairs serving occupants
- 4) Unprotected stairs serving occupants above floor level
- 5) Exit corridors serving a single floor
- 6) Exits from assembly rooms, hazardous areas, and rooms

Each of the above exits carry specific requirements to protect the building occupants based on the priority ranking of the exit feature and the type of hazard which is most likely to occur at or near these exits. **It is the duty of owners and operators to inspect all facility exits daily to make sure all exit doors and other exit devices are in proper working condition and are available for immediate use.**

Self-Inspection Guide:

- All exit doors are unlocked (See Door Locking Fire Fact)
- All exit doors are fully operational and maintained
- Required exit access, exit, and discharge are maintained free of obstructions or impediments to full instant use
- The exit discharge is a hard surface that extends from the exit to the public way that can be cleared of snow, ice, and other impediments

FIRE FACT 041 – DOOR LOCKS

There is no doubt of the Office of the State Fire Marshal's position regarding the locking of exits.

Egress doors shall be readily operable from the egress side without the use of key or special knowledge or effort. No hasp, chain, drop bars, dead bolts, or padlocks can be placed on any exit door at any time.

The building and fire codes recognize the need to protect certain occupants from elopement and/or outside threats and have included specific locking arrangements that are approved contingent upon additional requirements. Those locking arrangements are listed here:

Delayed Egress Locks: Permissible in all occupancies other than assembly, education, and high hazard occupancies. These doors will release automatically after a specified amount of time once the door has been pushed.

- Building equipped with automatic sprinkler system or automatic smoke detection system
- Doors must unlock upon activation of sprinkler or smoke detection system
- Doors must unlock upon loss of power
- Doors shall have the ability to be unlocked by a signal from the fire command center
- Door will unlock after 15 seconds when a force of not more than 15 lbs. is applied for 1 second to the release device on the door.
- Sign must be provided on the door and within 12 inches of the releasing device stating "PUSH UNTIL ALARM SOUNDS DOOR CAN BE OPENED IN 15 SEC"
- Emergency lighting must be provided at the door.
- No more than 1 delayed locking device in any path of egress.

Magnetic Locks: Permissible in Healthcare only. These doors will not release without a code or releasing switch.

- Building equipped with automatic sprinkler system or automatic smoke detection system
- Doors must unlock upon activation of sprinkler or smoke detection system
- Doors must unlock upon loss of power
- Locks can only be relocked by manual means
- Emergency release switch must be provided at the closest nurses' station that supervises the door.
- Key pad or key lock must be provided at the door
- Code must be provided to all cognitive residents, visitors and staff (except if the entire area is considered total lockdown)
- Emergency lighting must be provided at the door.

Office of the State Fire Marshal

Exits are required to be available and accessible. Whenever exiting is inadequate, the Office of the State Fire Marshal will take all necessary steps to protect the lives of the occupants including immediate evacuation. In these cases, buildings may remain unusable until the problem is corrected and appropriate planning for continuous safe exiting is shown.

Trying to prohibit access to your facility from the general public? Office of the State Marshal offers this clarification.

There is nothing in the code that says the doors have to be accessible from the outside. If the exit door is from an area of the building where entry is not needed, you can remove any outside hardware or the handle on the door and replace it with a blank plate or cover. Doors can also be equipped to sound an alarm whenever they are opened.

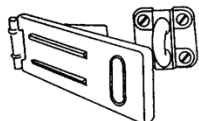
Prohibited Locks & Latches



Locking Door Chain



Barrel Bolt



Hasp



Dead Bolt / Thumb Turn



Drop-In Bar

Acceptable Locks & Latches Corridor Side/Classroom Side

Passage Latch: Both
knobs always unlocked

Exit Lock: Blank plate
Outside, inside knob always
Unlocked.

Classroom Holdback Lock:
Outside knob locked or unlocked by key. Inside
knob always unlocked. Latch may be locked in
retracted position by key except in rate
corridors that require doors to latch.

Classroom Lock: Outside
knob locked or unlocked by
key. Inside knob always
unlocked.

FIRE FACT 042 – EXIT ACCESS CORRIDORS

The International Building Code and International Fire Code have specific requirements for corridor construction, width, and maintenance to ensure safe and efficient building evacuation and navigation during emergencies and everyday use.

The biggest issue that is noted by Office of the State Fire Marshal staff is the obstruction of the corridors. Fire and building codes are clear...

Obstructions shall not be placed in the required width of a means of egress!

This includes movable items such as furniture, plants, TV/VCR carts, recycling containers, trash cans, clothing, etc. Even if these items were stored outside of the required corridor width, these items will get pushed and moved during a panic situation and tripping hazards.

Additionally, storage of anything in or on stairs and stair landings, which may contribute to a fall of a building occupant, is prohibited.

The following depicts the minimum corridor width that must be maintained clear absolutely no obstructions:

Colleges.....	3 ft. 6 in
K-12	6 ft.
Existing Healthcare	4 ft.*
New Healthcare	8 ft.*

* Healthcare facilities that have a corridor width greater than what is required must maintain the entire width unless the width is large enough to accommodate a living/common area (distinctly separated) in the middle. The minimum corridor width must be all surrounding wall surfaces.

Corridors shall be fire-resistance rated to protect the occupants from other areas of the building while evacuating. The following depicts the minimum rating that must be maintained in the corridors:

Colleges	1 hr. (w/ o sprinkler system).....	Smoke tight if sprinklered
K-12	1 hr. (w/o sprinkler system)	Smoke tight if sprinklered
Existing Healthcare	1 hr. (w/o sprinkler system)	Smoke tight if sprinklered
New Healthcare	1 hr. (w/o sprinkler system)	Smoke tight if sprinklered
Child Care (older than 2.5)	1 hr. (w/o sprinkler system)	Smoke tight if sprinklered
Child Care (younger than 2.5)	Smoke tight (sprinklered)	
Child Care (Mixed)	Smoke tight (sprinklered)	
Residential Board & Care (>16).....	½ hour (sprinklered)	
Residential Board & Care (<16).....	½ hour (sprinklered)	

FIRE FACT 043 – DOOR WEDGES

One of the most frequently asked questions during the inspection process is “Why can’t we prop open the corridor doors?”

The simple answer is that the corridor is typically designed to have a fire-rated separation. The intent of the fire-rated separation is to limit or control the spread of fire thus aiding in evacuation or allowing for limited sheltering while waiting for rescue. The fire-rating is compromised by any kind of opening, such as propping a door open.

However, the answer is not always so simple. We cannot stress enough that facilities review and be familiar with the design and construction of the building. Just because a code has allowances for non-rated corridors, does not mean that the building was built and designed to have non-rated corridors.

For example: Schools = Group E Occupancies

*The 2000 and 2006 International Building Code Requirements:
Corridor Rating = 1hr (Non-sprinklered building)
Corridor Rating = 0 (With sprinkler system)*

Meaning: If the building has a full sprinkler system throughout, then the corridor is not required to have a rating, therefore the classrooms are not technically required to even have a door. So if the door is not required, then there is no requirement to close the door.

The above is an example of the requirements for an educational occupancy building according to the 2000/2006 International Building Code, to view more detailed information or information regarding the other occupancy types you will need to view the appropriate building code that was adopted during it's construction.

GENERAL REQUIREMENTS

Rated Corridor = No Wedges or kickdowns

If the corridor is required by code or code footprint to have a fire-rated separation, then corridor doors cannot be held-open by a wedge, kick down, trash can, or other similar object. Only approve magnetic hold-open devices, tied into the facility fire alarm would be acceptable. This is applicable regardless of the fire-rating of the corridor (i.e. 2-hr, 1-hr, or ½-hr)

Non-rated Corridor = Facility discretion

If the corridor is not required by code or code footprint to have a fire-rated separation, then the corridor doors are permissible to be held-open utilizing anything other than combustible materials or objects that would obstruct exiting from the space.

Hazardous Rooms = Fire-rated separation.

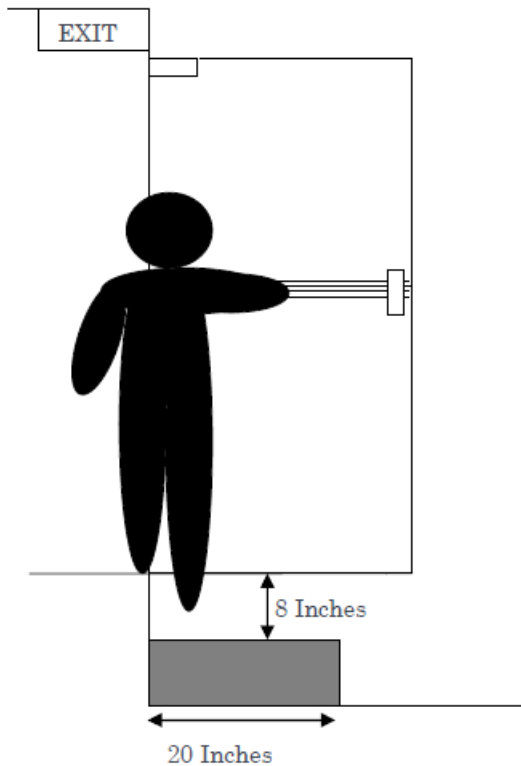
The doors must be protected the same as a rated corridor.

Federal Healthcare = No Wedges or kick downs

All corridor doors, regardless of the corridor rating, must only require 1-motion to close. The use of a wedge, kick-down, trash can, or other similar object would require more than 1-motion to close. It is permissible to utilize a magnetic hold-open device on rated corridors if the device is tied into the fire alarm system. It is permissible to utilize a magnetic hold-open device or an approved friction device on non-rated corridors, provided that it still only requires 1-motion to close the door.

FIRE FACT 044 – LEVEL LANDING

Level landings must be provided to prevent tripping and falling from exterior exits in a panic or rapid evacuation situation. We recognize the problems with renovating steps and exterior concrete work. While adopted codes are clear on the requirement for providing level landings (i.e. no variation in elevation), we will accept exterior landings that fall within the criteria shown in the following diagram.



If and when a facility undergoes a major renovation or modification, a level landing in accordance with the 2006 International Building Code will be required.

- Floor or landing on each side of the door shall be at same elevation
- Landing shall be level except for exterior landings with less than a 2% slope
- Width of landing shall equal width of door or stairway
- Length of landing shall not be less than 44 inches

FIRE FACT 045 – EXITING DURING CONSTRUCTION

Exiting deficiencies in buildings under construction continue to pose active threats to occupants' lives. Efforts to educate administrators, architects, engineers, and construction supervisors have not achieved safe exiting. K.S.A. 31-144 requires the Office of the State Fire Marshal to assure compliance and we intend to take additional stronger measures to achieve this.

We recognize that assuring safe exiting during construction can be challenging. It may be necessary to consult a licensed fire protection engineer or other professionals for guidance. Wherever exiting is inadequate, the state fire marshal's office will take all necessary steps to protect the lives of building occupants. This may even include immediate evacuation of the building or portions of the building. In these cases, buildings may remain unusable until the problem is corrected and appropriate planning for continuous safe exiting is shown.

TEMPORARY EXITING FROM ALL BUILDINGS

Architects and engineers determine the configuration of new buildings, new additions, and scope of remodeling projects. As the authority having jurisdiction in the matters of building exits, the OSFM will hold the licensed designers responsible during the construction process with the owner. The architects or engineers are expected to perform life safety evaluations at the outset of new work to assure that existing exiting will not be impaired or impeded by new construction.

TEMPORARY EXITING CONSIDERATIONS

- If the Building Code requires rated corridors, any temporary corridor construction shall not reduce the rating requirement.
- If the Building Code prohibits dead-end corridors over 20 feet long, the new addition shall not create one.
- If the corridor passes through the area of construction all features required in a permanent corridor shall be required in the temporary one, including the exit discharge to a public street or way.
- If the Building Code requires one-hour fire rated stair enclosures to the exterior of the building then extending the exit path during a construction project requires that certain levels of life safety must also be extended, even when the existing stairs are non-conforming. The reason is that the travel distance to the exterior exit direct occupants to available exits by better signs and guidance.
- If building occupants exit through a corridor to the exterior, it is not acceptable to place an intervening room in this path. This violates the Uniform Building Code.
- The use of "Not an Exit" signage is no longer acceptable by Office of the State Fire Marshal. It is more appropriate to direct occupants to available exits by better signs and guidance.

The codes have not changed; the Office of the State Fire Marshal is merely reacting to a documented problem, which must not be permitted to continue. With written permission in advance, the Office of the State Fire Marshal has permitted the temporary use of a "fire watch" when an exit system is impaired. A "fire watch" is a compensatory measure that will allow a facility to operate under a supervised level of life safety. Due to the high number of blocked exits during construction, we strongly recommend a daily program where an assigned individual of the facility walks each entire exit path at least hourly.

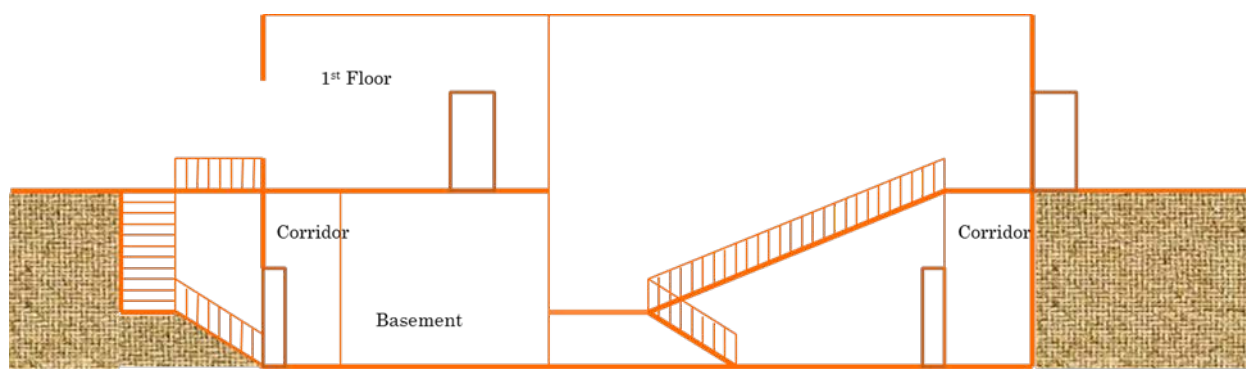
FIRE FACT 046 – BASEMENT EXITING

Occupied rooms and classrooms located in basements pose unique and difficult firefighting and life safety problems. Fire department access from the outside is not easily provided. In a fire situation, the firefighters must attack the fire from above. Likewise, persons wanting to exit from these spaces have limited options since windows or doors are nonexistent or windows are difficult to utilize. Fires originating in basements tend to be more severe because of the access problems.

“Basements” are below the first story. The first story is not more than 6 feet above grade for over 50 percent of the perimeter of the building and not more than 12 feet above grade at any point.

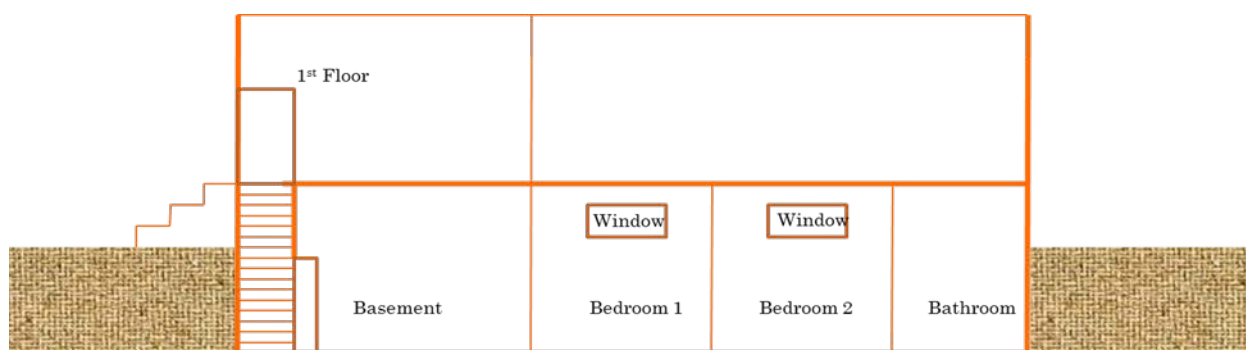
Education Occupancies

Basement exiting shall provide access to two exits from all areas in a basement used for educational purposes. At least one exit shall lead directly to the exterior without entering the upper floor or upper floor corridor, except when previously approved KSFMO. The following diagram illustrates the typical exiting requirements for basements.



Childcare Homes

Basement exiting shall provide access to two separate and remote exit paths must be provided. One exit will be stairs leading back to the main floor. The second exit may be another set of compliant stairs leading to the main level, a rescue/ventilation window to the outside, or a door that leads directly outside and continues to ground level. Any window used for exiting must meet the requirements found in Fire Fact 034. The following diagram illustrates the typical exiting requirements for basements.



Cross view of basement with interior stairs and compliant egress windows

FIRE FACT 047 – ASSEMBLY EXITS

The Office of the State Fire Marshal is responsible for adopting rules and regulations for the construction and maintenance of exits, fire alarms, smoke detection systems, and fire suppression equipment in all buildings except one and two family dwellings. As a result of inspections across Kansas, it appears that a large number of conference rooms, classrooms, restaurants, lobbies, taverns, bars, county fair buildings, youth centers and other similar spaces throughout the state may not provide an acceptable level of safety. The exiting requirements have been the same for these spaces for more than 20 years. It is unknown how these areas became non-conforming to these requirements. It is not practical to inspect every facility statewide, but it does not dim owner/operators of facilities must provide safe exiting for all occupants. Single rooms or areas that provide standing or sitting space **for over 50 occupants** are considered assembly occupancies.

A room or area is deemed to provide **SAFE exiting for 50-500 occupants** when occupants are able to evacuate unobstructed from a point in the room or area using one of two separate paths to a public way or yard. Detailed exiting requirements are:

- Two separate and remote exit doors
- The exit door provides a clear opening of at least 32 in clearance width
- The exit doors must swing toward the outside
- The exit paths are not blocked by construction or movable items
- Exit doors can be opened from the inside without special knowledge or effort, a tool or a key
- The main entrance may have access-controlled doors provided the following:
 - System must be approved
 - Must unlock by signal or loss of power to motion sensor
 - Manual unlocking device within 5 ft. of the door with sign "Push to Exit"
 - Must unlock upon activation of fire alarm or sprinkler system
 - Doors cannot be secured from the egress side
- Exit signs must be provided over exit doors. The signs must be illuminated
- Emergency lighting must be provided in the room and in the entire exit path
- A written emergency plan shall be maintained

If these features are not provided, your facility probably does not provide proper exiting per the Kansas Fire Prevention Code. You are expected to contact an architect or engineer for professional service to verify the condition and make any necessary changes to assure safe exiting is provided **OR you may voluntarily reduce your occupant load to 49 or fewer occupants.**

What is a remote exit?

Remote exits are separate, distinct ways out of a room or space that are at least a specific distance apart. For a sprinklered facility, these exits must be a minimum of 1/3 the room diagonal apart; in non-sprinklered facilities, they must be a minimum of 1/2 the room diagonal in separation. To find the diagonal of square or rectangular room, measure from one corner to the opposite corner. (These corners will NOT be along the same wall.) This measurement is your diagonal. To find the minimum separation for your exits, divide this number by 2 or 3, depending on whether your facility is sprinklered or non-sprinklered. For an irregular or oddly-shaped room, use the two furthest points as the diagonal or consult an architect or design engineer.

FIRE FACT 048 - EXTERIOR STAIRS

Types of protection or support required for exterior stairs:

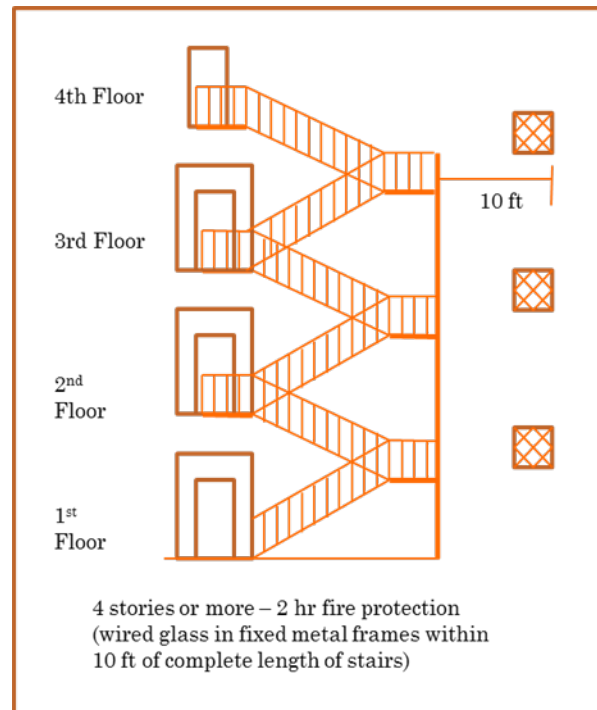
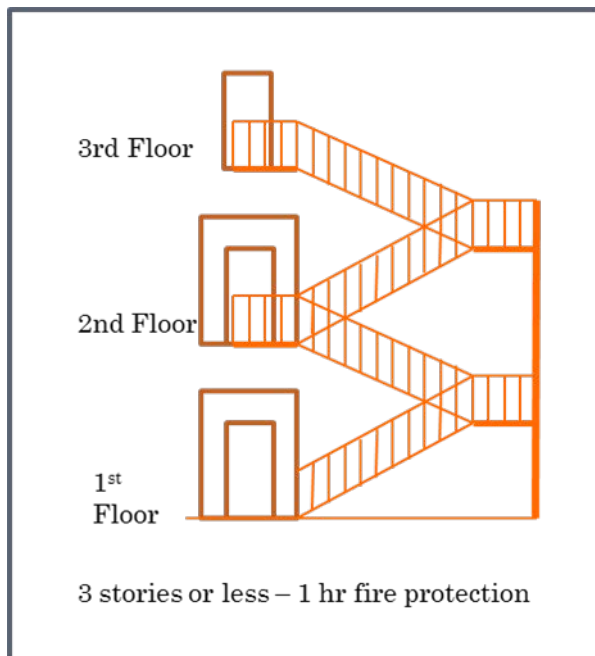
3-STORY OR LESS.

Requires 1-hr fire resistive walls

4-STORY OR MORE.

Requires 2-hr fire resistive walls and $\frac{3}{4}$ -hr protection for all openings within 10ft of the complete length of stairs.

Fire escape stairs must be structurally supported to the ground, or documentation maintained of successful inspection by a Kansas licensed architect or engineer updated every five years.



FIRE FACT 049 - EMERGENCY LIGHTS

Emergency lighting is installed to give occupants enough light to reach an exit during an evacuation. Emergencies that require evacuation may also cause the lights to go out.

This is no time to be in the dark.

The codes allow emergency lighting to be provided in different ways but the most common method is the use of battery powered units. Battery powered emergency lights are relatively inexpensive, reliable, readily available off-the-shelf. Units that are tested, listed, and labeled by a recognized testing lab such as Underwriter's Laboratories help provide assurance of performance and reliability.

Installation Pointers

Emergency lighting is required to illuminate routes leading to a required emergency exit. These routes include stairs, aisles, corridors, ramps, escalators, and passageways. An average of 1 footcandle at the floor is the minimum required level of illumination but common-sense installation usually exceeds this level. Actual measurement of light levels is rarely done. It is easier and usually cheaper to simply install more emergency lighting units in marginal areas. The best way for you to check the level of light is to simply try the emergency lighting on a dark night and see if the exit paths are adequately lit.

The units should be installed to provide adequate coverage over the most area. A two-light unit can be installed halfway down the length of a corridor and the lights pointed in each direction to cover the entire corridor. Don't aim the lights where they will shine directly in someone's eyes. It is better to light the path at the floor and illuminate the exit. Be certain the lights are connected to the lighting circuit so they will work when the lights fail, even if the other circuits remain energized.

Where Emergency Lighting is Required

Emergency lighting is required to be installed in all buildings required to have two or more exits.

Testing and Maintenance

Emergency lighting systems and units must be periodically tested to determine operability in an emergency. Testing will also indicate which units need maintenance or replacement. The Fire Codes require that the emergency power system must provide power for a duration of not less than 90 minutes. The lights must be tested to verify operation for the entire 90 minutes. Written records must be kept of the testing and be available for inspection.

Additional Federal Healthcare Requirements

Emergency lighting units must consist of 2 bulbs; as the failure of any single bulb must not result in illumination levels less than the minimum required. Emergency lights are not allowed to be tied into a light switch as that switch may interrupt the restoration of lights. All emergency lights must be tested for 30 seconds monthly and 90 minutes annually.

FIRE FACT 050 – EMERGENCY LIGHTS TESTING LOG

Although documentation must be kept, this exact form does not need to be used. Facilities are welcome to use this form as a guideline to develop their own format, or to use the form as shown for recordkeeping.

Requirements: Monthly – 30 Sec Note: You must conduct a 30 second functional test every month
 Annual – 90 Min regardless if you conduct the 90 minutes annual test.

Type: S- Exit Sign
 L- Emergency lights

Unit location and type	Jan:	Feb:	Mar:	Apr:	May:	Jun:	Jul:	Aug:	Sep:	Oct:	Nov:	Dec:	Annual:	Comments

- 1.) Provide a date tested for each month
- 2.) Initial each unit tested
- 3.) Comments should include information regarding failure & replacement

FIRE FACT 051 – NORMAL ILLUMINATION

Imagine yourself in an unfamiliar building, walking the hallways, when the lights go out. Darkness is all around and you stumble around a small table. Finally someone realizes that the light switch was inadvertently turned off and they turned it back on.

This scenario, as well as many others, could play out daily in any occupancy type. That is why it's important for facilities to provide "Normal Illumination".

Normal illumination is required throughout the entire means of egress, including the exit discharge, and is required to be provided during all times that the building is occupied.

Normal illumination is required in addition to emergency lighting, although in some cases you may have a single light source functioning in both capacities.

The minimum required level of illumination is 1 ft. candle at the floor level along the entire means of egress. However, auditoriums, theaters, and other similar occupancies may reduce the illumination level to not less than .2 ft. candle during performances as long as the illumination is automatically restored upon activation of the fire alarm system (if provided).

Artificial vs. natural light

Some buildings have been designed with a lot of windows, thus allowing a significant amount of natural illumination. However, we must keep in mind that the amount of natural illumination cannot be controlled. On overly cloudy or stormy days, or even for facilities that operate during evening hours, natural lighting would not be sufficient. Therefore, all facilities must have enough artificial lighting to meet the normal illumination requirements.

Protecting the Switch

The 2006 International Fire Code is very clear that illumination must be provided during all times that the building is occupied. It does not say "during all times that the means of egress is occupied". A simple light switch may not be appropriate due to the ability to easily turn it off. Facilities must come up with a way to protect the lights from being inadvertently or purposely turned off.

The following options would be acceptable to the Office of the State Fire Marshal*

- Keyed switch
- Switch cover
- Hard-wired (no switch)

* Federal healthcare facilities are not allowed to have "task lighting" on a switch or keyed switch of any kind. Task lighting, which includes normal and emergency lights, must be hard-wired to stay on at times.

Motion-sensor Lights

We understand that facilities are trying to cut costs and often times would like to turn off any lights that are not currently in use. An acceptable alternative would be the installation of motion-sensor light units. Motion-sensor lights would provide lighting in any area where motion is detected, therefore would meet the intention of the code requirement to provide lighting for safe navigation during all times that the building is occupied.

FIRE FACT 060 – FIRE ALARM

A fire alarm system is a specialized system and requires knowledge and experience to properly design, install, inspect, and maintain. Only those individuals properly trained, educated and experienced shall work on these systems.

New Systems or Modifications

Before fire alarm systems in certain facilities can be installed or modified, plans must be submitted to the OSFM for approval. These facilities include:

- Educational: USD's, private schools, preschools, daycare and childcare centers, and Board of Regents universities.
- Healthcare: hospitals, adult care facilities, nursing homes, ambulatory care centers, and residential board and care facilities.
- Correction and detention

The submitted plans shall comply with standards set forth by the OSFM and shall include a copy of equipment cut sheets and floor diagrams. These should show the placement of detectors, fire alarm control panels, pull stations, annunciation devices, and other components. Specification sheets and any other information relevant to the fire alarm or smoke detection system should also be included.

The plans must be stamped by a physical engineer or a Kansas-licensed engineer with knowledge in fire alarm systems.

The design, installation, modification, inspection, and maintenance of fire alarm systems shall comply with all requirements of the applicable nationally promulgated codes and standards, regardless of whether or not the OSFM required a plan or whether or not plan approval was given by any jurisdiction, including the OSFM.

Existing Systems

Existing systems shall be maintained according to the applicable codes and standards. The edition of the standard may vary by occupancy type as shown below:

Federal Healthcare: NFPA 72, 1999

All other occupancies: NFPA 72, 2007

It is extremely important for facility owners and operators to be knowledgeable in their specific fire alarm system as well as ensuring they are utilizing good qualified individuals to work on and maintain the system. At a minimum, the facility owner and operator must be able to recognize when the system is impaired, how to perform a basic reset, and when to call for service.

Existing Systems – Cont'd

Here is an abbreviated list of fire alarm system requirements. You will need to obtain a copy of NFPA 72 (appropriate edition) to see the complete list of inspection, testing, and maintenance requirements.

Weekly

Visual inspection of panel for trouble signal

All staff should be trained to recognize alarm trouble signals as part of a continual monitoring process

Quarterly

Visual inspection of all sprinkler devices connected: water flow and tamper valve switches

Semiannual

Test of sprinkler waterflow switches *

Test of sprinkler valve tamper switches *

Visual inspection of lead-acid battery

Test batteries

Annual

Important: The annual inspection documentation must meet the minimum documentation requirements as outlined in NFPA 72 (4 page form).

Test and visual inspection of panel

Test panel battery charger

Battery discharge test

Test and visual inspection of horns, strobes, chimes, bells, etc.

Test and visual inspection of smoke, heat, and duct detectors

Test and visual inspection of electromechanical releasing devices

Test and visual inspection of voice evacuation equipment

Other

Replace panel batteries every 5 yrs. or per manufacturer recommendations

Sensitivity testing of smoke detectors **

Recommend detector replacement after 10 yrs.

* This may already be done as part of the inspection, testing and maintenance requirements of the sprinkler system

**See NFPA code for timeframe requirements

FIRE FACT 061 – SMOKE DETECTORS

The use of smoke detection in regulated facilities is becoming much more common. Office of the State Fire Marshal requires smoke detection in some specific regulated facilities and in all regulated facilities with sleeping occupants. We have also accepted smoke detection as a compensatory measure for some facilities not requiring smoke detection. This concept is based on the automatic early detection and notification of the occupants and their speedy evacuation prior to the exit way being obstructed by smoke.

SMOKE DETECTION: General

By definition and by design, smoke detectors respond to the solid and liquid aerosols produced by a fire. Each type responds differently to different types of smoke. Also, because they respond to aerosols from non-fire sources, an understanding of their operating characteristics is helpful in the the correct selection and placement of smoke detectors to reduce the chances of false and nuisance alarms. Therefore, the selection of a smoke detector should be based on the type of fire and fuel expected, as well as on environmental characteristics of the area to be protected.

Smoke detectors are designed to detect smoke by one of two basic principles. They use either **ionization** or **photoelectric light** to detect smoke. Most detectors installed for in the home or office fall into these two categories. However, there are some detectors that are available for special applications and specific uses. **Office of the State Fire Marshal will accept detectors using either of these principles.**

A smoke detector transmits an alarm signal either by sounding an internal alarm or by signaling a control panel. Most detectors encountered in field inspections fall into three general categories for sounding an alarm.

- (1) Single station detectors
- (2) Multiple station or interconnected detectors
- (3) Detection systems

Single station detectors: These detectors provide coverage for a single area and will sound an alarm from that one single detector upon activation. This type of detector is powered by battery or building power. These detectors are readily available to the general public and allow for installation by the homeowner or facility operator.

Multiple station or interconnected detectors:

These detectors are powered by the building's electrical power supply and are connected together by an independent circuit. These detectors provide coverage for the multiple areas where detectors are located. All detectors connected in the circuit will sound upon activation of any one of the detectors required. The application of this type of detection is limited to the size of the facility and to the number of detectors required. These detectors are available through qualified electrical supply dealers and installers.

FIRE FACTS 062 – PULL STATION

The lack of sufficient fire alarm pull stations along exit paths is considered an impediment to speedy notification and results in a slower evacuation of the building occupants. Office of the State Fire Marshal considers building occupant notification second in importance to exiting for most existing occupied buildings. The impact of fire related injuries or deaths would most likely be reduced if occupants could exit a building by the shortest exit route and notify the rest of the building occupants by activating the fire alarm system.

Occupancies utilizing NFPA 72, 1999 & 2007 Editions

Manual fire alarm pull stations shall be located:

- within 5 ft. of the exit doorway of each exit on each floor, and
- at intervals of no more than 200 feet apart within the building

Education Occupancies utilizing IBC 2006 Edition

Manual fire alarm pull stations shall not be required where all of the following apply:

- Corridors have smoke detection with alarm verification; and
- Auditoriums, cafeterias, gyms, etc. have heat detectors or other approved detection; and
- Shops and labs have heat detectors or other approved detection; and
- Off-premises monitoring is provided; and
- Can activate the evacuation signal from a central point; and
- Normally occupied spaces have two-way communication with a constantly attended location where the evacuation signal can be sounded

Classroom and Resident Room- Direct Exit

Many buildings constructed under the earlier Building Codes have opted to provide exterior exit doors from their classrooms and resident rooms. Due to the availability of the exterior exit, the earlier Building Codes might have allowed the rated corridor protection to be deleted. The normal path of exit from these classrooms is then directly to the exterior. Even with this added feature, which allows occupants to exit the building without entering any other building atmosphere, each room exit to the exterior must have a pull station.

Consider a multiple classroom building where each classroom has a direct exit to the outside. If a fire starts in one of these classrooms, the immediate threat to the room occupants may not be the most concern. All room occupants would be able to exit safely using their exterior exit door, but without the rated corridor or other design features meant to contain the fire to one location, students in other classrooms would be threatened. With the fire alarm pull station located by this exterior door, the students and teacher would be able to notify the rest of the building of the imminent threat, even as they are evacuating the building.

Manual fire alarm pulls are expected to be at logical locations, which is why they are required at exterior doors used as exits. When manual fire alarm pulls are not in these required areas, we ask our inspectors to identify this as a distinctly hazardous condition. The building owners and operators and the Office of the State Fire Marshal may collectively develop an acceptable response to this distinctly hazardous condition, assuring that all building occupants will evacuate the building as quickly as possible.

FIRE FACT 063 – SPRINKLER SYSTEM

Sprinkler systems are designed to quickly get water to the seat of the fire. The design of a sprinkler system is enormously complex, taking into account many different factors like available water supply, construction type, potential fuel load, and the use of the space to be protected. In order to function effectively and properly, sprinkler systems must be designed and constructed to very specific standards. Once installed, the systems must be properly maintained and tested to ensure they will work when needed.

Sprinkler systems are required in some types of facilities, regardless of whether the building is new or existing. Use the chart below for baseline requirements. For more information on this requirement, review the International Building Code, International Fire Code, and Life Safety Code for the specific occupancy requirements.

	Facility Type	Fire Code	System Required		Type
			New	Existing	
Education	USD	IBC/IFC (E)	Yes	Yes*	13
	Private School	IBC/IFC (E)	Yes	Yes*	13
	Preschool	IBC/IFC (E)	Yes	Yes*	13
	Childcare Center	IBC/IFC (I)	Yes	Yes*	13
	College	IBC/IFC (B)	No	No	
Healthcare	Hospital	NFPA 101	Yes	**	13
	Nursing Home	NFPA 101	Yes	Yes (2013)	13
	Hospice	NFPA 101	Yes	**	13
	Ambulatory Surgical Center	NFPA 101	No	No	
	Residential Board & Care (L)	IBC/IFC (I)	Yes	Yes	13
	Residential Board & Care (S)	IBC/IFC (R)	Yes	Yes	13R
Other	Detention/Correctional	IBC/IFC (I)	Yes	Yes	
	Hotels/Motels	IBC/IFC (R)	Yes	Yes	13R
	Dormitories	IBC/IFC (R)	Yes	Yes	13R

Facilities that currently do not have an automatic sprinkler system installed may continue to operate without retroactively installing a system. However, if the building undergoes major renovation, additions or alterations to the building or licensure, then the building will be required to come up to “New” standards.

* Automatic sprinkler system is only required in levels below exit discharge and in buildings greater than 20,000 sq. ft. in area. An automatic sprinkler system is not required in any area below the level of exit discharge where every classroom (throughout the building) has at least one exterior door at ground level.

** Automatic sprinklers may or may not be required, depending upon the facility construction type and the number of stories.

SYSTEM PLAN REVIEW

All new system installations as well as existing modifications/alterations, listed above, shall have plans submitted to OSFM for review. In addition to the plans that are required to be submitted for review, OSFM will conduct a cursory review of any sprinkler plan submitted.

OSFM has a 30 day review period for all plans submitted to our office. Make sure you plan accordingly especially for facilities that are under a timeline for having a completed installation. It is estimated that a sprinkler installation could take anywhere from 6 mo. to 1 year or more depending upon the size of the facility.

The submitted plans must include system layout diagrams, equipment cut sheets, and hydraulic calculations. See 2006 IBC section 903 for more clarification.

The design, installation, modification, inspection, and maintenance of fire sprinkler systems shall comply with all requirements of the applicable nationally promulgated codes and standards, regardless of whether or not OSFM required a plan or whether or not plan approval was given by any jurisdiction, including the OSFM.

Only those individuals properly trained, educated and experienced shall participate in work on these systems. A copy of the "Contractor's Material and Test Certificate for Aboveground Piping," which indicates the system meets NFPA 13 and NFPA 25 standards, shall be left at the building premises.

Every new system and modified system are expected to be reviewed or under the supervision of either a Kansas licensed engineer with knowledge in automatic fire sprinkler systems or a fire protection engineer.

LOCAL JURISDICTION REVIEW

In some larger cities, the local fire department has a full-time inspection department that is willing to conduct the plan review. Additionally, some fire departments require sprinkler plans to be submitted to them as part of their own requirements.

In these cases, the OSFM will accept the local jurisdiction review in lieu of a full review being conducted by both OSFM and the local jurisdiction. However, the local jurisdiction must notify OSFM that a review has been conducted and that the installation meets all requirements of the Kansas Fire Prevention Code.

FIRE FACT 064 – STANDPIPE

Throughout Kansas, local fire departments utilize their own hoses and nozzles and do not rely on standpipe hoses found in buildings. The fire departments train and utilize 1 ½ inch or larger hoses that are routinely tested. In several situations, the Office of the State Fire Marshal has permitted the removal of existing standpipe hoses with the concurrence of local fire department officials.

Office of the State Fire Marshal emphasizes exiting and safe evacuation from a building over expecting suppression efforts by building occupants. We do not encourage occupants to stop and fight a fire, nor are we currently actively enforcing the maintenance and upkeep of standpipe hoses or employee training on proper use. We believe having untrained personnel use the equipment in an emergency may create more hazard and obstruction to building occupants, thus impeding the speedy exiting from the building. Further, once provided, annual testing, documentation and training are required.

In an actual fire emergency, the local fire departments will rely on their own engines and hoses to control an incident. A properly located department whereas a Class II standpipe may not.

The chart below details the general requirements for standpipe classes. For more information on the, review the International Building Code, International Fire Code, and NFPA 14 for the specific requirements.

NFPA 14 Standpipe Classes

Class	Used By	Hose/Outlets	Min. Pressure	Min. Flow
I	Fire Dept & Fire Brigades	2.5 in	100psi	500gpm/250 additional
II	Building Occupants	1.5 in & 100ft hose	65psi	100gpm total
III	Combined I & II	All of above	Same	500gpm/250 additional

Alternative Design

Where Class II standpipe systems are required by Code, a minimum of a Class I dry standpipe system shall be allowed by the Kansas acceptable only if the Class I dry standpipe is designed in accordance with either NFPA 14 or the International Building/International Fire Code and equipped with 2 1/2 inch fittings, valves and piping located as for Class II standpipes, and if the local fire department concurs.

Background:

Pursuant to the Kansas Fire Prevention Code, Office of the State Fire Marshal adopts the 2006 International Building Code (IBC) as minimum construction IBC-06 permits the acceptance of alternative provisions that provide equivalent protection. NFPA-101 Section 1-5 contains similar provisions.

FIRE FACTS 065 – FIRE DEPARTMENT ACCESS

Kansas Statutes direct the Office of the State Fire Marshal and the Prevention to focus on the regulation of exits, fire alarm systems, and building suppression devices within buildings, where people congregate. This is accomplished through regulation, certification, education, inspection, and enforcement. State and local standards are similar but enforced on different levels.

In many municipalities across the state, owners constructing **new** buildings are given site conditions or requirements at the onset of a project, which address fire department access. Some of these requirements can be found in Section 905 of the IBC, 2006 edition. Acceptable fire department access roads, adequate water supplies, and hydrants are provided or the owner may provide the building with an automatic fire sprinkler system. However, we are not aware of many successful attempts to retroactively apply these requirements to existing buildings sites.

Obviously, it is in the best interest of the facility and the community to provide for emergency services access wherever possible. This is, however, a local issue best handled by local units of government.

FIRE FACT 066 – HOOD SUPPRESSION

Hood suppression systems are installed to provide protection due to the laden vapors from cooking equipment. Hazardous operations require increased ventilation and special hood systems designed and installed to maximize protection of the hazard.

The requirement for hood suppression systems are from 2006 International Fire Code, section 904 and NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, 1998 & 2008 Editions. It's important to review the administration portion of the code book as it defines the applicability of the requirements. Some key points are provided:

- The standard shall apply to residential cooking equipment used for commercial cooking operations
- The standard shall apply to cooking equipment used in fixed, mobile, or temporary concessions, such as trucks, buses, pavilions, tents, etc.
- If a "Distinctly Hazardous Condition" is being created, the AHJ (authority having jurisdiction) may retroactively apply any portion of the standard

When is a Hood Suppression System Required?

There are several factors that are considered when establishing if a hood suppression system is required, however the most important determining factor is the actual use of the equipment. Cooking equipment that is utilized to cook foods that produce smoke or grease-laden vapors shall be equipped with an exhaust hood and fire equipment such as deep fat fryers, cooktop ranges, griddles, broilers, woks, skillets, braising pans, etc. Microwaves and toaster ovens do not fall into this category.

If a facility is only using the cooking equipment to warm pre-cooked foods or for baking, then typically they would not require a full hood suppression system. However, if the facility is conducting routine cooking of meals, then most likely they are cooking foods that produce smoke or grease-laden vapor. Common cooking ingredients that produce grease include, but are not limited to: all meats, butters, cooking sprays, oils, and fats.

Written Policy

Occasionally there are facilities that have cooking equipment installed but do not utilize the equipment for routine cooking or any cooking that produces a smoke or grease-laden vapors. In these cases, the facility must have a written policy regarding the acceptable uses of the equipment. The policy must be posted near the cooking equipment so that it's visible to anyone who uses the equipment.

Cautionary note: If your facility has a policy in place regarding the acceptable use of the equipment, then the facility must ensure that all outside vendors and after-hour special events follow and abide by the policy.

General Requirements

- Ventilation hoods shall be of approved construction and properly installed
- The hood and equipment shall be cleaned at frequent intervals to prevent build-up
- Filters must be in place with no gaps. Mesh filters are not allowed
- A manual activation device shall be clearly marked, accessible, and located in path of egress
- System must be serviced at least every 6 months by a certified firm
 - Testing the operation of the system
 - Activation of automatic fuel or power shutoffs
 - Annual replacement of the fusible links (left on-site)
 - Annual replacement of automatic sprinkler heads if needed
 - Update system service tag – completed, signed, and dated
- A Class K fire extinguisher shall be provided
- The entire exhaust system shall be inspected and cleaned in accordance with T11.4

T11.4 Summary

Solid fuel cooking Monthly

High volume cooking Quarterly
(24hr cooking, charbroiling, wok)

Moderate volume cooking Semiannually

Low volume cooking Annually
(churches, day camps, seasonal businesses)

Documentation of all inspection, testing and maintenance shall be kept at the facility for review.

FIRE FACT 067 – FIRE EXTINGUISHER

Classification of portable extinguishers - Portable extinguishers are rated for effectiveness and the types of fires it will extinguish. Some extinguishers can be used on multiple types of fires while others are only effective on a specific type. The classifications are:

- A – ordinary combustibles
- B – flammable liquids
- C – electrical
- D – combustible metals
- K – cooking appliances

The classification of extinguishers consists of a NUMERAL, such as “2,” that indicates the relative extinguishing effectiveness, followed by a LETTER for the class of fire.

This agency recommends that an extinguisher with a minimum of a 2A UL rating be used in all but high hazard areas of a structure. In high hazard areas where Class B flammable materials are used or stored in above normal quantities, extinguishers with a minimum of a 2A 10BC rating should be installed unless otherwise indicated. A Class K fire extinguisher is required in locations where there is a potential for fire involving combustible cooking media (vegetable oil or fats).

Recommendations for Fire Extinguisher Use

Portable fire extinguishers should only be used after the fire alarm for the building has been sounded, after full or partial building evacuation has begun, and after the fire department has been called. Only the proper extinguisher classification should be used. Serious injury or death could occur if the wrong fire extinguisher is used to try to put out a fire. Extinguishers should only be used by individuals trained in its use and on small, contained fires such as trash cans, electrical boxes, and kitchen or small equipment. Personnel should be trained in the proper use of the extinguisher.

Placement of Extinguishers – The actual placement of fire extinguishers can best be accomplished through a physical survey of the area to be protected. Fire extinguishers shall be located where they are visible, readily accessible, immediately available, and along all normal paths of travel.

Distribution of Fire Extinguishers-Portable fire extinguishers are most effectively utilized when they are readily available in sufficient number and with adequate extinguishing capacity for use by persons familiar with their operation.

Travel distance is the actual distance the user of the extinguisher will need to walk. Consequently, travel distance will be affected by partitions, location of doorways, aisles, piles of stored materials, machinery, desks, tables and other items. For most occupancies the travel distance to a fire extinguisher shall not exceed 75 feet unless in high hazard areas. In high hazard areas, such as wood or metal shops or chemistry laboratories, the travel distance shall be no more than 50 feet.

Installation – All portable, non-wheeled extinguishers shall be installed according to the following:

- Secured or bracketed to the wall
- Placed inside an unlocked fire extinguisher cabinet or wall recess
- 40lbs or less: Top of the extinguisher is not more than 5ft above floor
- Greater than 40lbs: Top of the extinguisher is not more than 3.5ft above the floor
- Bottom of extinguisher to the floor shall not be less than 4 in.

Inspection - An inspection is a "quick check" that an extinguisher is available and will operate. It is intended to give reasonable assurance that the extinguisher is fully charged and operable. All extinguishers shall be inspected when initially placed in service and thereafter at approximately 30-day intervals. The date of the inspection and the initials of the person performing the inspection shall be recorded. This type of an inspection may be performed by facility personnel without being certified by the Office of the State Fire Marshal.

Annual Maintenance – Extinguishers shall be subjected to maintenance not more than one year apart or when specifically indicated by an inspection. Maintenance procedures shall include a thorough examination of the mechanical parts, the extinguishing agent, and the expelling means. *Annual maintenance may only be performed by personnel of a firm certified by Office of the State Fire Marshal.*

Six Year Maintenance - Every six years, stored pressure extinguishers that require a 12-year hydrostatic test shall be emptied and subjected to the applicable maintenance procedures. When the applicable maintenance procedures are performed during periodic recharging or hydrostatic testing, the six-year requirement shall begin from that date. *Six year maintenance may only be performed by personnel of a firm certified by the Office of the State Fire Marshal.*

Hydrostatic Testing - All refillable fire extinguishers require hydrostatic testing at intervals that vary according to the type of extinguisher. Hydrostatic testing is required for all stored pressure extinguishers every 12 years, for stored pressure water or foam type extinguishers every 5 years and carbon dioxide (CO₂) extinguishers every 5 years. CO₂ type extinguishers may only be tested by a firm with a DOT certified test station. *Hydrostatic testing shall be performed by personnel of firms certified by the Office of the State Fire Marshal, trained in pressure testing procedures and safeguards, having suitable testing equipment, facilities, and appropriate servicing manuals.*

Maintenance Tag – We get several questions regarding the use of the maintenance tag. Office of the State Fire Marshal does not require that the inspection and testing be documented on the tag itself. Rather it's more important to maintain the documentation in whatever format works best for safekeeping and quick reference. So if your facility has trouble with maintaining the tags, it is acceptable to remove the tag and keep the documentation elsewhere as long as the documentation is kept at each building.

FIRE FACT 068 – EXTINGUISHER CERTIFICATION

CERTIFICATION TO SERVICE FIRE EXTINGUISHING EQUIPMENT

Firms that service, recharge, test, inspect, or install fire extinguishers or fixed extinguishing systems are required to be certified by the Office of the State Fire Marshal in accordance with K.S.A. 31-133a. Article 10 of the Office of the State Fire Marshal Administrative Regulations (K.A.R. 22-10-01 through 22-10-19) applies to the servicing firms for certification, compliance and consumer protection. There are four classes of certifications:

RA Permits servicing, recharging, installing, or inspecting fixed extinguisher systems by a currently certified manufacturer's distributor

RB Permits servicing, recharging, installing or inspecting portable fire extinguishers

RC Permits hydrostatic testing of non-DOT cylinders, including wet chemical or dry chemical containers

RD Permits servicing, recharging, and inspecting fixed extinguishing systems

TO BECOME CERTIFIED

A business must submit a written application to the Office of the State Fire Marshal with the following enclosures for each certification class.

- 1) The applicant shall show proof of training received by the manufacturer of each system or the applicant may submit a notarized affidavit stating equivalent training and has current certification through the International Code Council and the National Association of Fire Equipment Distributors (ICC/NAFED)
- 2) The applicant shall show proof of insurance appropriate to class covering comprehensive general liability, bodily injury, property damage and completed operations.
- 3) A Nonrefundable application fee of \$200. No fee will be charged for any person who is an officer or employee of the state or any political or taxing subdivision of the state when that person is acting on behalf of the state or political or taxing subdivision.

An on-site inspection may be made to insure that the proper equipment is available for servicing fire protection equipment.

For certification applications or for more information, call the Office of the State Fire Marshal at (785) 296-3401.

FIRE FACT 069 - HAZARDOUS ROOMS

Buildings are typically designed with a designated storage area that by original construction provides the necessary safeguards for protecting the storage area from the other occupied areas of the building. But what happens when over time the use of the building expands or changes and there becomes a need for additional storage?

Due to the increased fuel load in storage rooms, these areas are considered hazardous rooms and must be protected from other areas of the building to prevent any fire incident from either leaving or entering the hazardous area.

Examples of hazardous rooms include but are not limited to the following:

- Boiler and fuel-fired heating rooms
- Bulk laundry
- Soiled linen rooms
- Trash collection rooms
- Paint shop
- Repair shop
- Laboratories
- Combustible storage rooms *

* Federal healthcare considers a combustible storage room as any room greater than 50 sq. ft. used for general storage. All other occupancies are 100 sq. ft.

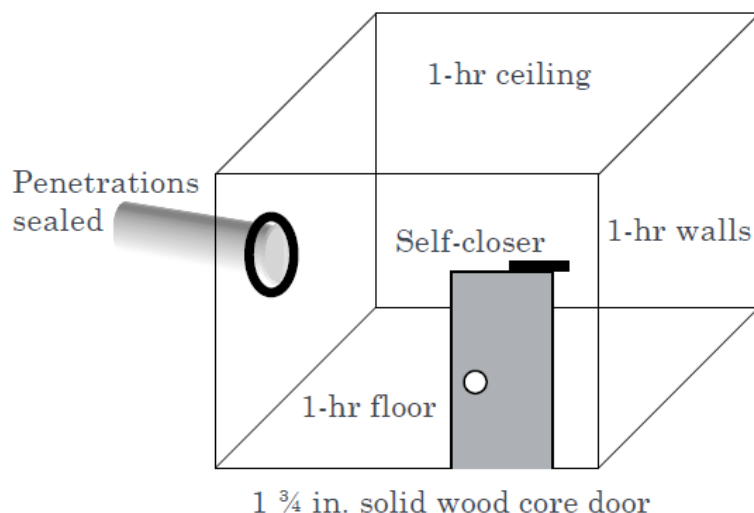
Hazardous rooms must be protected by the following:

- 1-hour fire-resistance-rated construction; and
- Doors shall be noncombustible or 1 $\frac{3}{4}$ in solid wood core
- Doors shall be self-closing

Or

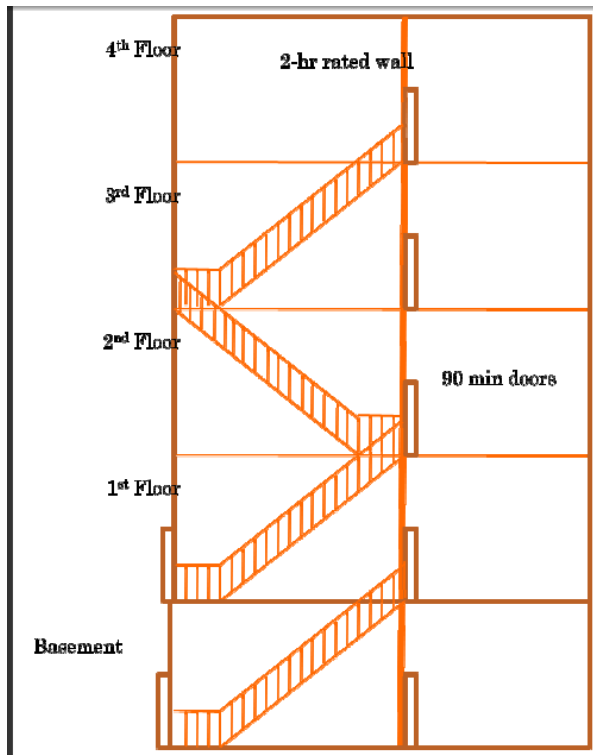
- Area protected by approved automatic sprinkler
- Area shall be maintained smoke tight
- Doors shall be self-closing

Rated protection and smoke tight requirements apply to walls, ceilings, floors, and doors. All openings and penetrations must be sealed and/or firestopped. See Firestopping Fact 071.



FIRE FACTS 070 - STAIRS AND VERTICAL OPENINGS

Stair enclosures are critical components of fire and life safety. Open stairways act as chimneys during fire, quickly spreading smoke, heat and fire upward. An enclosed stairway prevents this.



Non-Healthcare Construction:

Required interior exit stairs connecting:

4 or more floors 2-hour protection
3 or less 1-hour protection
The number of floors shall include any basements.

If stairs connect two floors AND the building is equipped throughout with an automatic sprinkler system, there is no additional fire-related construction requirements.

Exception:

- 1) Complete or partial smoke detection connected to the fire alarm system that has been accepted by KSFM and documented in writing.
- 2) Complete automatic sprinkler system that has been accepted by KSFM and documented in writing.

Openings: Doors shall be labeled, self- or automatic closing, and shall be provided with an active latch that will secure the door when it is closed.

Penetrations: Prohibited, except for exit doors and any equipment or ductwork necessary for independent pressurization, sprinklering, etc.

Directional signs: Signs must be provided to direct occupants to the level of exit discharge. Signs shall not direct occupants to re-enter the building.

Floor numbers: For stairs connecting more than 3 stories, a sign shall be provided on each floor landing designating the floor level, the terminus of the top and bottom of stairs, the identification of the stair, and the availability of roof access for the fire department.

Construction requirements specific to healthcare facilities

Healthcare facilities generally have more stringent requirements due to the large number of non-ambulatory occupants. Therefore a greater level of fire protection is required especially in regards to smoke compartmentation and fire separations.

Every floor in a healthcare facility shall be constructed as a smoke barrier and shall be enclosed with fire barrier walls. All openings shall be protected as appropriate for the fire rating and shall be self-closing and must latch. Please note that there are several exceptions for unclosed openings such as atriums and other communicating spaces.

New Construction

3 or less stories

1-hr fire protection

4 or more stories

2-hr fire protection

Existing

All levels

½ hr. fire protection

Vertical opening self-inspection

- Check doors for self-closing device
- Open the door and let go, allowing the self-closing device to function.
- Does the self-closing device fully close the door?
- Does the door stay closed when you press on the face of the door?
- Walk the entire stair enclosure, top to bottom, and inspect for openings and penetrations
- Openings and penetrations must be sealed using appropriately rated material
- Is there any storage in the stair enclosure or under the stairs?

FIRE FACT 071 - FIRE STOPPING

In building construction, a rated wall is designed to subdivide a building into separate fire areas in an effort to slow the spread of fire or smoke from one side of the building to the other. These walls are designed to maintain a specific fire rating in accordance with all applicable building codes.

There are various types of rated walls that are present in almost every building type. The International Building Codes provides the following definitions:

Fire Wall: A fire-resistance-rated wall having protected openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall.

Fire Barrier: A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained.

Smoke Barrier: A continuous membrane, either vertical or horizontal, such as a wall, floor, ceiling assembly that is designed and constructed to resist the movement of smoke.

These rated walls are originally designed to be a continuous solid barrier. Additionally, a fire wall is specifically required to be continuous from exterior wall to exterior wall and begins at the foundation and extends to a distance above the roof. Rated walls are also required to be continuous through all concealed spaces unless the construction assembly forming the bottom of the space has a fire rating equal to that of the rated wall.

Over time, as building occupancy changes, technology advances, and buildings undergo renovation, there becomes a need for the facility to penetrate these rated walls with cables, piping, duct work, etc. These penetrations, any penetration, are required to be adequately firestopped in order to maintain the rating of the wall.

Firestopping: A precisely tested means and method for preventing the spread of fire (and to a lesser degree smoke) through a breach or gap in a fire-resistance rated wall.

Office of the State Fire Marshal highly recommends that facilities consult with a specialist or an engineer to obtain an engineering judgment and/or recommendation for a qualified contractor to perform the work. Firestopping should not be considered standard building maintenance.

The installation of firestopping materials is very technical and must be installed in accordance with the manufacturers' guidelines, otherwise the firestopping product will not be effective and the rated wall will not function as designed. Facilities must do extensive research into firestopping before attempting to correct any rated wall penetration. Listed below are the steps each facility must take in order to ensure proper firestopping.

1.) Choose a single firestopping manufacturer

Facilities should stick with the same firestopping manufacturer throughout an entire rated wall assembly. Firestopping manufacturers only pay for their products to be tested. Company A is not paying for their product to be tested along with Company B product. Ideally facilities should have the same firestopping manufacturer throughout the entire facility.

2.) Establish a fire system assembly

A fire system assembly is similar to a pre-established product line. It's a group of firestopping materials that have been tested together for various penetration types and still maintain the rating. Once a facility chooses a fire system assembly they must stick with that assembly from that point forward for any new or inadequate penetrations.

3.) Read and understand the requirements

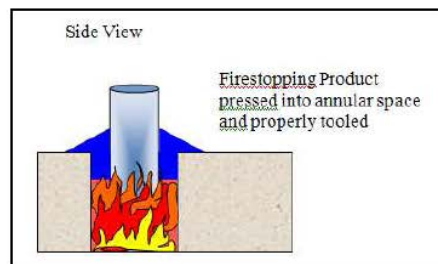
The fire system assembly contains the very specific installation instructions. Without the fire system assembly there is no way for a facility or contractor to know how the firestopping product is to be installed.

4.) Install according to manufacturer

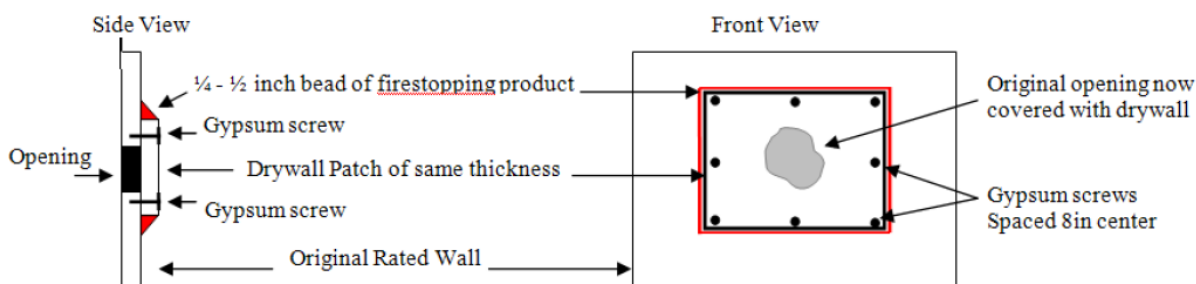
Firestopping is tested under very precise conditions. If the firestopping is not installed appropriately then it will not function as intended and the fire wall may not provide the separation necessary to allow occupants time to evacuate. Installation includes, but is not limited to: using the appropriate amount of product; the product is uniform and covers 360° around the penetrant; and the firestopping product is adequately tooled*.

Please review the following basic installation requirements:

Tooling: the final step in firestopping which insures an appropriate amount of product is pushed down into the annular space and that the product adheres to both the penetrating item and the wall/floor surface.



Rated Wall Band-Aids: the method of overlaying a piece of drywall to the original drywall rated wall in order to cover a large hole to reduce the annular space around a penetration for firestopping purposes.



Office of the State Fire Marshal will continue to cite any facility whose current firestopping installation looks inadequate. If a facility is cited for an inadequate existing or new penetration, they must submit documentation regarding the firestopping product and the fire system assembly. For existing inadequate penetrations, facilities must completely remove the old product and start over.

Example of Fire System Assembly:

System No.
F Rating — 2 Hr
T Ratings — 0, 1-1/4 and 2 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/sq ft
L Rating At 400 F — 4 CFM/sq ft

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete floor or min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Floor may also be constructed of any 6 in. thick UL Classified hollow core Precast Concrete Units. Max diam of opening is 4 in. (102 mm).
 See Concrete Blocks (CAZT) and Precast Concrete Units* (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. Steel Sleeve — (Optional) Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extend a max 3 in. (76 mm) above the floor or beyond both surfaces of the wall. The T Rating for the firestop system is 2 hr except that when the steel sleeve is provided. If the steel sleeve is installed flush with both surfaces of the floor or wall, the T Rating of the firestop system is 1-1/4 hr. If the steel sleeve extends beyond the top surface of the floor or both surfaces of the wall, the T Rating of the firestop system is 0 hr.
3. Through Penetrants — One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and sleeve (Item 2) shall be min 1/4 in. (6 mm) to max 1-3/8 in. (35 mm). When steel sleeve (Item 2) is not provided, the annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1-5/8 in. (41 mm). Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom. 2 in. (51 mm) diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
 - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - C. Rigid Nonmetallic Conduit* — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).
 - D. Crosslinked Polyethylene (PEX) Tubing — Nom 2 in. (51 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems.
4. Firestop System — The firestop system shall consist of the following:
 - A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material. When precast concrete units are used, packing material to be recessed from top surface of floor to accommodate the required thickness of fill material and to be installed flush with bottom surface of floor.
 - B. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or both surfaces of wall assembly. Additionally, nom 1/2 in. (13 mm) bead of fill material applied between concrete and penetrant.

FIRE FACT 080 – FIRE SAFETY BOOK

Every facility will have some type of fire safety system, whether a smoke detector, a fire extinguisher, or a large building-wide system. These safety features must be tested on a regular basis to make sure they will work in the event of an emergency. Some tests and checks done by the facility owner/operator, and others must be done by licensed or qualified professionals. All maintenance and regular checks should be documented, and this documentation should be kept for at least 3 years. This included documentation of drill records, maintenance and testing of alarms, emergency lighting, fire extinguishers, automatic sprinklers and suppression systems. During an inspection, these records will be reviewed by the inspector.

One of the simplest ways to keep this documentation organized and accessible is to create a facility Fire Safety Book. This book should contain the information listed below. If a facility has more than one building, a Fire Safety Book should be kept at each building and a comprehensive book (containing documentation for all buildings) should be kept in a central location.

First Section

Contains maintenance and testing documentation for emergency lighting, emergency generators, fire alarm and any detection systems, automatic sprinkler systems, standpipe systems, portable fire extinguishers, and commercial cooking suppression systems.

Second Section

Contains fire and tornado drill records.

Healthcare Facilities: 1 per shift, per quarter (Fire)

School Facilities: 1 per month during school year (Fire) / 3 times (Tornado)

Childcare Facilities: 1 per month (Fire) / 3 times (Tornado)

Third Section

Contains copies of the OSFM inspection reports and Plans of Correction from the previous year. This section will include any additional requested documentation and approval correspondence.

Fourth Section

Contains copies of emergency plans for evacuation.

Fifth Section

Contains code footprint drawing certified by a licensed Kansas design professional for ALL new construction projects, as required by the KBFSH. This includes any project designed, proposed, under construction, or completed after September 1, 1997. This also includes copies of all additional documentation required for plan approval.

Listed below are the maintenance and testing documentation that must be available for review at the time of inspection.

The Office of the State Fire Marshal Inspector will provide the facility representative a listing of the documentation requirements during the entrance conference. The Inspector will provide a timeframe estimate for when he/she will review documentation. Facilities must have all documentation ready for review at the specified time. Inspectors cannot wait for facilities to obtain copies of any missing paperwork.

We believe this chart will assist owners and operators in collecting and retaining testing and maintenance records. This will help bring facility compliance to the highest level of fire safety for the public occupancy and assembly of the citizens of Kansas.

Emergency Lights	Fire Pump	Smoke Detectors
Monthly (30 sec)	Weekly	Annual
Annual (90min)	Monthly	Sensitivity Testing
Exit Signs	Annual	Tornado Drill
Monthly (30 sec)	Flame Retardand Treatment	3 Times yr *
Annual (90min)	Documentation	Miscellaneous
Fire Alarm	Maintenance logs	Boiler Certificate
Monthly	Generator	Code Footprint
Quarterly	Weekly	Elevator Maintenance
Semi-annul	Monthly	Medical Gas System
Annual	Annual Load (if required)	Facility Policies
Battery	Hood Suppression	Evacutation Plans
Fire Dampers	Bi-Annual	Fire Procedures
Test and Lube (4yrs)	Cleaning	Fire Watch
Fire Drills	Sprinkler System	Generator Malfunction
1 st Quarter	Weekly (dry)	Power Strips
2 nd Quarter	Monthly (Wet)	Portable Heaters
3 rd Quarter	Quarterly	Smoking Policy
4 th Quarter	Annual	
Monthly *	5 yr Internal	
	Standpipe Hyrdo (5yr)	

* Annotates a requirement for education facilities

FIRE FACT 081 – MAINTENANCE OVERVIEW

Equipment like fire alarm systems, sprinkler systems, fire extinguishers and smoke detectors have made buildings much safer. This equipment must be tested and maintained to make sure it will work during a fire. Here are the primary maintenance and testing requirements for fire and life safety systems and equipment.

Fire / Life Safety System	Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Other
Exits							
Exit doors checked for operation	x						
Corridors clear of obstructions	x						
Exterior stairs/escapes checked	x						
Fire Alarm System - See Fire Alarm Testing Fire Fact							
System verified on and operable	x						
System Testing			x	x		x	
Sensitivity Testing							1, 3, 5 - then every 5 yrs
Batteries							Manufacturer guidelines
Emergency Lights							
30 Sec Test			x				
90 Min Test						x	
Exit Signs							
30 Sec Test			x				
90 Min Test						x	
Generator - See Generator Testing Fire Fact							
Checked for readiness		x					
System Testing			x				
Fire Sprinkler System - See Fire Sprinkler System Testing Fire Fact							
System Testing		x*	x	x		x	* Dry System
Internal Obstruction							Every 5 yrs
Standpipe Hydrostatic							Every 5 yrs
Fire Extinguishers							
Quick check			x				
Service by certified tech						x	
Tear down maintenance							Every 6 yrs
Hydrostatic Test							Stored pressure - Every 12 yrs CO2 - Every 5 yrs
Hood Suppression							
System Service					x		Fusible links replaced annually
System Cleaning	x						Professionally according to usage
Tear down maintenance							Every 6 yrs

FIRE FACT 081a - MAINTENANCE QUALIFICATIONS

Testing and maintenance of any fire or life safety system must be completed by individuals who meet the code requirements of "qualified" to perform these tasks. While each code verbiage may be slightly different, the OSFM recognizes these individuals who have been trained and/or certified by a manufacturer or nationally recognized organization as qualified to work on their fire and life safety system(s).

NFPA 72, *The National Fire Alarm Code*, identifies who are qualified to work on these systems:

10.2.2.5* Service Personnel Qualifications and Experience

10.2.2.5.1 Service personnel shall be qualified and experienced in the inspection, testing and maintenance of the fire alarm systems. Qualified personnel shall include, but not be limited to, one or more of the following:

- (1) Personnel who are factory trained and certified for fire alarm system service of the specific type and brand of system.
- (2) Personnel who are certified by a nationally recognized fire alarm certification organization acceptable to the authority having jurisdiction.
- (3) Personnel who are registered, licensed, or certified by a state or local authority
- (4) Personnel who are employed and qualified by an organization listed by a nationally recognized testing laboratory for the servicing of fire alarm systems.

The code clarifies the intent of these requirements in Annex A:

A.10.2.2.5.1 (1) Factory training and certification is intended to allow an individual to service equipment only for which she/he has specific brand and model training.

A.10.2.2.5.1 (2) Nationally recognized fire alarm certification programs might include those programs offered by the International Municipal Signal Association (IMSA) and National Institute for Certification in Engineering Technologies (NICET). *Note: These organizations and the products or services offered by them have not been independently verified by the NFPA, nor have the products or services been endorsed or certified by the NFPA or any of its technical committees.*

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2008 edition, also defines who is qualified to test or perform maintenance of these systems:

4.1.2.1 Inspection, testing, and maintenance shall be implemented in accordance with procedures meeting those established in this document and in accordance with the manufacturer's instructions.

4.1.2.2 These tasks shall be performed by personnel who have developed competence through training and experience.

It is the opinion of the OSFM that NFPA 25 has the same intent for personnel qualification as that of NFPA 72 regarding the testing, inspection, and maintenance of any fire or life safety system.

FIRE FACT 082 – GENERATOR TESTING

The inspection, testing, and maintenance schedule for your Essential Electrical System (EES) generators is specified below. Generators shall be inspected weekly, monthly, and annually as well as exercised under load at least monthly.

Individuals responsible for testing and maintaining the system must be trained and knowledgeable system and its functions

10-second Rule:

- The generator set shall be maintained to be capable of supplying service within the shortest time practical and within 10-seconds after the interruption of the normal service

General Inspection & Testing: Generator sets shall be

- Inspected weekly, monthly and annually (see inspection chart below)
- Tested twelve (12) times a year under load conditions
 - Intervals not less than 20 days or exceeding 40 days
 - Including a complete simulated cold start
 - Transfer of all essential electrical system loads

Load Testing Requirements: All generators shall be

- Exercised at least monthly for 30 minutes
 - o At not less than 30% of the EPS nameplate rating

Note: If you have a diesel-powered generator that cannot meet the above conditions, the facility must then meet the following:

- Exercise generator at least monthly with available load
- Load-Bank test annually (2 hrs. total)
 - 25% for 30 minutes
 - 50% for 30 minutes
 - 75% for 60 minutes

Background Information:

When conducting the monthly load tests, some facilities may not have enough equipment connected to the generator in order to meet the generators 30% load capacity. In this situation, the facility needs to document everything that is connected to the generator and the total load percentage that is being utilized.

Furthermore, if the generator is a diesel powered generator, and the facility is unable to reach 30% capacity, there is an additional requirement to have an annual load bank test conducted. This additional requirement is only for diesel powered generators that cannot reach 30% of the listed load. The reason this is required for diesel powered generators and not the other gas powered generators is due to the carbon buildup that occurs in diesel systems.

The annual load bank test must be conducted by a generator contractor. The contractor will bring the load bank testing equipment, which will then be hooked up to the generator. The load bank equipment will transfer enough load to meet the testing percentages outlined in NFPA 110. Due to the transferring of higher load percentages, the load bank test forces/blows out a large portion of the carbon buildup that occurs overtime from not fully utilizing the equipment.

FIRE FACT 083 - EVACUATION PROCEDURES

Written Evacuation Procedures

Nobody expects a fire emergency or disaster – especially one that affects their current location such as home or work. However, the truth remains that emergencies can strike anywhere and at any time. The best defense is to make an emergency plan and ensure everyone is aware of their role and responsibilities.

The Fire Codes require an approved fire safety and evacuation plan be prepared and maintained for the following occupancies:

- Group A (Excluding religious worship with less than 2,000 occupant load)
- Group B having an occupant load of 500 or more; or more than 100 persons above/below the lowest level of exit discharge
- Group E
- Group H
- Group I
- Group R (1, 2, 4)
- High-rise buildings
- Group M having an occupant load of 500 or more; or more than 100 persons above/below the lowest level of exit discharge
- Covered malls exceeding 50,000 sq. ft. (agg. Floor area)
- Underground buildings
- Group A, E, M with an atrium

Additional Guidelines: Federal Healthcare (NFPA 101, 2000 Edition)

A written plan of protection shall be maintained by the Administration of every health care occupancy which outlines the protection plan for all persons in the event of fire, for their evacuation to a safe area of refuge, and for total building evacuation if necessary. All employees must be instructed and kept informed periodically with respect to their duties. A copy of the written plan shall be readily available.

Additional Guidelines: Schools (K.A.R. 22-18-2a)

Every educational facility shall have a written policy which outlines fire drill procedures for all occupants, including those with disabilities. This policy is typically found in student and staff handbooks but can also be placed on fire drill prep plans inside classrooms.

The responsibility for students unable to evacuate the building without additional assistance rests solely with the school staff and faculty; it cannot be transferred to the student population. When writing the policy, be specific about who will be responsible for the impaired occupants. Be clear whether the responsible person will be a teacher, paraprofessional, or other staff member.

The policy should provide the exiting arrangements to be used, whether with the student's class, by way of ADA compliant ramps, to an area of refuge, or by other means. It should also include a method of accounting for individuals needing special assistance such as the designation of a specific meeting place.

Because school populations can easily change, the policy should be general and applicable to any disability that could interfere with speedy evacuation in an emergency. The disabilities being planned for should include mobile, visual, or hearing impairments, as well as impaired cognitive function.

FIRE FACT 084 - FIRE DRILLS

The purpose of a fire drill is to practice the swift removal of all building occupants to a safe area of refuge.

BEFORE THE DRILL

1. Remember that all exits are to be unlocked and unobstructed.
2. Designate specific staff members to be responsible for the planning and scheduling of fire drills.
3. Designate a safe area at least 50 feet from the building. This area should be safe from dangers of fire, fire department operations, and public vehicles.

CONDUCTING THE DRILL – Keep it as real as possible

- * Conduct drills on different days of the week and at different times of day
- * Use the fire alarm system to initiate the fire drill
- * Remember to use a different initiating device each month
- * Don't announce the drills ahead of time
- * All occupants must participate (Exceptions for healthcare occupancies)
- * Utilize scenarios to gain staff participation
- * If any fire alarm equipment is found to be inoperable during the drill, it should be repaired immediately
- * After it is verified that a successful evacuation has taken place, the building may be occupied

SCHOOLS

- A fire drill must be held each month that school is in session. For schools with separate morning and afternoon sessions of kindergarten or preschool, monthly drills need to be conducted for each session.
- After the alarm sounds, students should proceed in an organized manner to their area of safety using a designated evacuation route. Staff should account for the children upon reaching the safe area.
- After the evacuation, faculty and staff should verify that all occupants have evacuated. Restrooms and other closed areas should be checked out by sight and voice.

HEALTHCARE

- A fire drill must be held once per shift per quarter. A silent drill may be conducted between the hours of 9:00 PM and 6:00 AM, a coded announcement may be used instead of the audible alarm.
- Once the fire emergency is discovered, the basic response of staff shall include the removal of all residents directly involved with the fire, provide notification to other building occupants, close all doors to try and confine the fire, and the relocation of residents to another protected area
- After the evacuation, faculty and staff should verify that all occupants have evacuated. Restrooms and other closed areas should be checked out by sight and voice.

DOCUMENTING THE DRILL

- * Completely fill out the form (Several different forms are provided below)
- * Each building must have its own separate drill record, count of participants, and evacuation time.
- * Keep completed yearly records for at least three years.

FIRE DRILL RECORD- GENERAL

Facility Name	Year(s) of drills
Address	Responsible Party Name and Title
City, State, Zip	Facility/License #
Phone	Fax

MONTH	DATE OF DRILL	TIME OF DAY	TIME FOR EVACUATION	NUMBER OF OCCUPANTS	RESPONSIBLE PARTY NAME
January					
February					
March					
April					
May					
June					
July					
August					
Septembe					
October					
Novembe					
Decembe					

POST IN A CONSPICUOUS LOCATION

When ALL REQUIRED DRILLS have been conducted, maintain the original or a copy of the drill record IN YOUR FILES ONLY for a period not less than 5 years for future reference and verification by the Office of the State Fire Marshal.

FIRE DRILL RECORD- SCHOOLS

SCHOOL DISTRICT	USD# (WHEN APPLICABLE)	BUILDING NAME	CITY	TELEPHONE

FIRE DRILLS

Month	<i>Date of Drill</i>	<i>Time of Day Drill Conducted</i>	<i>Evacuation Time</i>	<i>Number of Occupants (Students & staff & guests actually participating in the drill)</i>	<i>Manual Pull Station or Smoke Detector or Automatic Sprinkler Valve</i>	<i>Official's Signature/ Title</i>
August						
September						
October						
November						
December						
January						
February						
March						
April						
May						
June						
July						

TORNADO DRILLS

Month	<i>Date of Drill</i>	<i>Time of Day Drill Conducted</i>	<i>Evacuation Time</i>	<i>Number of Occupants (Students & staff & guests actually participating in the drill)</i>	<i>Notification method</i>	<i>Official's Signature/ Title</i>

POST IN A CONSPICUOUS LOCATION

When ALL REQUIRED DRILLS have been conducted, maintain the original or copy of the drill record IN YOUR FILES ONLY, for a period not less than 5 years for future reference and for verification by the Office of the State Fire Marshal.

FIRE DRILL RECORD – HEALTHCARE

Date of Fire Drill:

Shift(s) Involved
(Check all that apply)

☐ 1st ☐ 2nd ☐
3rd

Time Conducted:

Location of Fire:

ALARM PERFORMANCE

How was the drill initiated: ☐ Manual Pull ☐ Sprinkler ☐ Smoke alarm ☐ Power Out

List specific location of unit activated:

Drill Type: ☐ Audible alarm ☐ Coded/Silent alarm

Did all staff hear the alarm? ☐ Yes ☐ No

Did all fire emergency equipment function properly
(fire doors, smoke dampers, etc.) ☐ Yes ☐ No

Did auto dispatch notification function correctly? ☐ Yes ☐ No

What time did dispatch receive alarm?

PERSONNEL PERFORMANCE (R.A.C.E)

RESCUE

Were all residents & visitors evacuated from the fire zone? ☐ Yes ☐ No

Was there a proper/systematic search conducted? ☐ Yes ☐ No

Did staff account for all residents? ☐ Yes ☐ No

ALARM

Who activated the alarm?

Was the alarm properly activated? ☐ Yes ☐ No

Did staff call the fire department? ☐ Yes ☐ No

Was the alarm reset? ☐ Yes ☐ No

CONTAINMENT

Did staff close resident room doors? ☐ Yes ☐ No

Were corridor doors unobstructed? ☐ Yes ☐ No

Did all corridor doors latch properly? ☐ Yes ☐ No

EXTINGUISHMENT/EVACUATION

Were proper fire extinguishers taken to fire area? ☐ Yes ☐ No

Did staff simulate using fire extinguisher? ☐ Yes ☐ No

Did staff stay with evacuation residents? ☐ Yes ☐ No

Was facility evacuation procedures followed? ☐ Yes ☐ No

How long did it take to secure/evacuate all areas

Scenario:

Drill supervisor:

Title:

FIRE DRILL RECORD – HEALTHCARE cont.

PARTICIPATING EMPLOYEE SHEET

Date of drill:

[illegible]

FIRE FACT 085 – FIRE WATCH

A fire watch is a short-term, emergency measure intended to provide an acceptable level of life safety in a building that has an impaired fire safety system. A fire watch is a compensatory measure only. It is intended to allow continued occupancy of a building or facility that may not be safe for building occupants during the time period required for implementing appropriate changes or repairs. The purpose of the fire watch is to check ALL areas of the building on a regular basis for fire/life safety emergencies and then to alert the facility occupants to take appropriate action as early as possible.

Different occupancies have different levels of risk determined by the relative vulnerability of the occupants. Each facility shall establish and maintain a written fire watch policy.

When Required

An informal fire watch should be implemented IMMEDIATELY when certain conditions are discovered either by the facility or by other authorities. Examples of when an informal fire watch may be required by the Office of the State Fire Marshal (OSFM) include:

- * Outage or significant impairment of the fire alarm signaling system.
- * Outage or significant impairment of the automatic fire suppression system.
- * Outage or significant impairment of the facility water
- * Impairment of the facility's exiting system NOT significant enough to warrant evacuation and shutdown of the facility.

Informal Fire Watch Procedures

*Notify ALL staff and occupants (if appropriate) immediately.

*Informal fire watch shall be maintained during the entire period of facility occupancy

*Person(s) assigned to the fire watch

*Informal Fire Watch plans include notification and communication procedures. Portable radios and cellular phones may be used to send an alarm to occupants and emergency response forces.

*The Fire Watch shall include all areas of the facilities which are affected by the impairment. Special attention shall be paid to storage areas, janitor closets, attics, utility spaces, and other normally unoccupied areas.

*All areas are to be checked **at least hourly** required.

If the above conditions are expected to exist for over 4 hours, or if conditions remain impaired for more than 4 hours in a 24 period, a formal Fire Watch must be initiated.

Formal Fire Watch Procedures

*Notify ALL staff and occupants (if appropriate) immediately.

*Notify the Authority Having Jurisdiction (AHJ) of the Fire Watch condition. The AHJ for all healthcare occupancies in the state of Kansas is the Office of the State Fire Marshal and can be reached at (785) 296-3401. Schools, colleges, and correctional facilities are also required to notify OSFM of fire watch conditions. The aforementioned occupancies must also notify their local jurisdictions of the Fire Watch condition.

*Fire watch shall be maintained during entire period of facility occupancy.

*Person(s) assigned to the Fire Watch **SHALL HAVE NO OTHER DUTIES.**

*Informal Fire Watch plans include notification and communication procedures. Portable radios and cellular phones may be used to send an alarm to occupants and emergency response forces.

*Fire Watch shall include ALL AREAS of the facility. Special attention shall be paid to storage areas, janitor closets, attics, utility spaces, and other normally unoccupied areas.

*Fire Watch rounds shall be continuous. However, all areas are to be checked **at least hourly**.

*Healthcare facilities, schools, colleges, and detention facilities must send a log of the Fire Watch round at the end of each shift until the situation is corrected. This is preferably done via facsimile. The OSFM fax number is (785) 296-0151

Remember, Fire Watches are compensatory measures only and cannot be used in lieu of compliance with the Kansas Fire Prevention Code.

Office of the State Fire Marshal – Fire Prevention Division

Fire Watch Log

Facility Name:	Address:
Date:	Time Begin:
Reason:	Time End:
Designated Person :	

RESPONSIBILITIES: The responsibilities of firewatch personnel include: performing constant patrols of the premises to keep watch for fires, report all fires to the 911 Dispatch Center, maintain a means of communication with the 911 Dispatch Center, record actions during firewatch.

Area	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400

INITIAL THE TIME AND LOCATION BEING OBSERVED
 AT THE END OF EACH DAY FAX THIS TO THE KSFMO AT 785-296-0151
 THANK YOU

FIRE FACT 086 - SMOKING

The Kansas Indoor Clean Air Act went into effect on July 1, 2010.

Smoking is prohibited in most of the following indoor locations in Kansas:

- Public places
- Places of employment
- Restaurants
- Bars
- Within 10 ft. of any doorway, open window, or air intake where smoking is prohibited

Locations that are exempt from the Indoor Clean Air Act:

- Tobacco shops
- Gaming facilities
- 20% of hotel/motel sleeping rooms
- Designated areas of private outdoor clubs
- Private homes or residences not used as a home daycare
- Designated areas of adult care homes and long-term care homes
- Class A & B clubs

The Kansas Indoor Clean Air Act is regulated by the Kansas Department of Health and Environment and is not enforced by the Office of the State Fire Marshal. However, smoking and smoking equipment does play a large part in the fire inspection process.

Even though most facilities are now required to be non-smoking, these facilities may still be forced to provide smoking receptacles for the patrons who visit their building. It is not uncommon to walk up to the main entrance of a non-smoking facility and find several cigarette butts scattered about the ground. Providing a smoking receptacle may be the only way for a facility to ensure cigarette butts are disposed of properly.

Additionally, because these facilities are providing a smoking receptacle, they must provide approved receptacles and they must ensure they are properly disposing of the ashes.

Receptacles

- Must be noncombustible
- Must be designed for use as ashtray or ash receptacle
- Ashes should never be allowed to accumulate

Ash Disposal

- Ashtrays and ash receptacles should be placed on a routine cycle for disposal
 - Ashes must never be directly disposed of in a trash container or dumpster
 - Ashes must be either drenched with water or placed in a metal container with a self-closing lid for 24hrs, before being disposed of in the trash
- *Federal healthcare facilities must use a metal container with a self-closing lid

FEDERAL HEALTHCARE GUIDELINES

All healthcare facilities must have a written smoking policy to outline the facility specific rules and regulations regarding the use or prohibition of smoking materials and activities. This policy must be available to inspection staff for review. Individual patient medical information should not be included in this policy. However, the policy may name specific patients who are allowed or excluded from smoking.

At a minimum, the facility smoking policy must include provisions for the following:

- Locations of designated smoking areas
- Smoking is prohibited in any room, compartment, or ward where flammable liquids, combustible gases, or oxygen is used or stored
- Smoking is prohibited in hazardous areas
- No-Smoking signs shall be placed at all locations where smoking is prohibited, such as hazardous areas and oxygen areas
- Smoking is prohibited for patients classified as not responsible
- Only noncombustible ashtrays of a safe design are utilized
- Metal containers with a self-closing lid are provided for ashtray disposal

Non-Smoking Facilities & Oxygen

If the facility is a non-smoking facility, the requirement for posting non-smoking signs in all hazardous and oxygen areas is not required if the facility has a sign posted at all major entrances stating that the facility is non-smoking.

Smoking & Oxygen

There are numerous documented incidents regarding fires caused by individuals smoking while using oxygen or while in an oxygen enriched environment. It is not permissible to smoke around oxygen! This includes, but is not limited to, oxygen concentrators and having an oxygen cylinder stored on the back of a wheelchair while smoking. Residents must properly store the oxygen in a designated location safely away from the smoking area.

FIRE FACT 087 – DECORATIONS

A variety of events occur during the year involving the use of decorations and other seasonal materials. The use of non-approved materials for these applications greatly increases the risk to the building occupants.

Some of the materials used (hay, straw, and most large plastics including artificial Christmas trees) exhibit flammable and rapid burning characteristics under fire conditions. The use of rapidly burning materials in corridors and rooms effectively eliminates the built-in safety provided by building construction. Additionally, these decorations generally include temporary electrical wiring and excessive use of extension cords. These unsafe conditions increase the risk of a fast-spreading fire.

Even the use of acceptable decorations can create a dangerous situation. The following are conditions that are commonly found by inspection staff:

- Decorations are hung from the sprinkler pipes or sprinkler heads. Doing so could compromise the ability of the system to perform as designed in the event of an emergency
- Decorations hide, obstruct, or constrict exit doors and pathways. All required exits must be readily accessible and cannot be blocked.
- Decorations hide and obstruct exit signs and emergency lights. In an emergency situation the illumination provided by these units may be your only way to find and locate an exit.

It is not our intent to prohibit decorations; rather, we must insure that the decorations used do not create an unreasonable risk to occupants.

It is the responsibility of building owners and operators to develop a set of instructions for staff, event sponsors, and guests which outline requirements for acceptable materials used in decorations and special events.

Prohibited Decorations:

- Live Christmas trees
- Artificial trees must be fire-resistant
- Hay bales
- Candles *
- Large plastic or paper displays
- Mirrors located near exits or at the end of corridors

Decorations allowed to be used sparingly:

- Cards
- Artwork
- Limited seasonal

Rule of Thumb regarding decorations

Federal Healthcare: No more than 10% of the total wall area for each wall

All other occupancies: No more than 20% of the total wall area for each wall

* In certain occupancies the use of candles may be allowable under direct staff supervision and only for special occasions.

FIRE FACT 088 – INTERIOR FINISH

Interior finish is commonly confused with decorations.

Interior finish is the exposed surface of interior walls, ceilings, and floors. Whereas, decoration is the stuff that is hung on or applied to the exposed surface for decorative purposes.

Interior finish includes but is not limited to:

- Floor tile
- Carpet
- Fixed or movable walls
- Rolling walls
- Partitions
- Wainscoting
- Paneling
- Acoustical tile
- Surface insulation

Interior finish does not include: (See Fire Fact on Decorations)

- Pictures
- Shelves
- Holiday décor
- Curtains and draperies

COMMON ISSUES

Interior finish citations typically involve the use of non-treated wood. Often times inspectors will find wood paneling and wood beams in buildings that have not been inspected previously. Maybe the building was previously used as a general office building and is now being utilized as a child care center. In these instances, the facility must either remove the wood or treat the wood with an approved fire-rated product.

FIRE-TREATMENT PRODUCTS

Prior to purchasing a fire-treatment product, it is recommended that facilities submit the product information and specification sheet to the Office of the State Fire Marshal for review. The cost of the review is free. This is the only way a facility can guarantee that the product being purchased is acceptable.

REQUIREMENTS BY OCCUPANCY

The following gives a brief summary of the interior finish requirements. However, for more detailed information see the referenced tables in the International Fire Code.

	Corridors - Sprinklered	Corridors - non sprinklered	Rooms & spaces - sprinklered	Rooms & spaces - non sprinklered
Assembly	B	A	C	B/C
Education	C	B	C	C
Healthcare	A/B	A/B	C	A/B

FIRE FACT 089 – EXTENSION CORDS

Most facilities were not built with enough fixed wiring that is needed for everyday operations. However, facilities should use caution when substituting fixed building power with temporary power sources such as power-strips and extension cords.

The International Fire Code and NFPA 70 National Electrical Code both state that “Extension cords and flexible cords shall not be a substitute for permanent wiring.”

This means that the allowances in the codes for extension cords are meant to be used as a temporary solution until the facility can budget for the installation and/or upgrade for additional fixed wiring.

Temporary Wiring (as defined by International Fire Code): Not to exceed 90 days.

Common Issues

Some of the problems we find during annual inspections include overloaded power cords, daisy-chained cords, and the use of multi-plug adapters.

- 1.) Overloaded Cords: Facilities must be aware of the amperage capacity of a power cord and also must be aware of the amperage of the TV, Radio, VCR, etc., that is being plugged into the power cord—it cannot exceed the amperage of the power cord.
- 2.) Daisy-Chained Cords: Power cords shall be plugged directly into an approved receptacle. If the cord is not long enough, it is not acceptable to plug several cords together to obtain the needed length.
- 3.) Multi-plug Adapters: These devices are prohibited. If the outlet is a 2-plex, it is not acceptable to plug in a 6-plex in order to obtain more outlets.

Other Considerations

Power strips: All power strips shall be either polarized or grounded and shall be equipped with overcurrent protection.

Securing Cords: When utilizing power cords, facilities must look at the placement of the cord so as they do not become a tripping hazard. However, cords shall not be permanently affixed to the structure, extended through walls, ceiling or floors, or under doors or floor coverings.

Splices: Flexible cords shall be maintained in good condition. Cords shall not have splices or show signs of deterioration or damage. Any cord found in this condition shall be removed immediately.

Med-Large Appliances: Items such as personal refrigerators, microwaves, vending machines, and fish tanks must be plugged directly into the wall outlet. No extension cords or strips would be allowed.

Federal Healthcare Specific

- Extension cords are not allowed.
- Protected power strips are permissible for temporary use only.
- NFPA 101, LSC does not define “temporary”
- Absolutely no medical equipment can be plugged into a power strip. Must be plugged directly into the wall outlet.

FIRE FACT 090 – ALCOHOL BASED HAND SANITIZER

In recent years, there has been a significant increase in the use of hand sanitizers. We understand the need for sanitizers in public and common areas, but we also want to make sure the use of flammable liquids and gels don't create an additional fire hazard.

It's important to remember that hand sanitizers, also known as alcohol-based hand rubs (ABHR), do pose a fire hazard. The alcohol content in the sanitizers is flammable and has caused burns in connection with static and arcing electricity.

So when is it safe to install ABHR dispensers and how do you store it? If you follow these guidelines as you install ABHR dispensers, you will continue to keep your building occupants safe from the hazards of fire and explosion.

Non-Healthcare Recommendations *

- Maximum capacity of each dispenser (in rooms): 68 oz. (2 L)
- Maximum capacity of each dispenser (in corridors): 41 oz. (1.2 L)
- Maximum amount in a corridor: 10 gal (37.85 L)
- Corridor width: 6 ft.
- Minimum spacing between dispensers: 48 in (4 ft.)
- Do not install dispensers directly adjacent to, above, or below an electrical source
- Bottom of dispenser mounted between 42-48 in above the floor
- Release of content by manual means only
- If installed over carpet, smoke compartment is provided with automatic sprinkler protection

** The recommendations originate from the 2006 International Fire Code, Section 3405.5 which is not adopted by K.A.R 22-1-3. These are recommendations only.*

Healthcare Requirements

- Corridor width: 6 ft.
- Maximum capacity of each individual dispenser: 41 oz. (1.2 L)
- Minimum spacing between dispensers: 48 in (4 ft.)
- Maximum amount in a corridor: 10 gal (37.85 L)
- Do not install dispensers directly adjacent to, above, or below an electrical source
- If installed over carpet, building is provided with automatic sprinkler protection

FREQUENTLY ASKED QUESTIONS

Q.) What about ABHR's that are the pump style sitting on a desk?

A.) *Those are not regulated by the codes for installation; however the size and quantity limitations should still be adhered. Also, staff should monitor the accessibility and use of the hand sanitizer to ensure it's being used appropriately and is not ingested.*

Q.) What is considered adjacent to an electrical source?

A.) *The definition of adjacent is not provided in the fire codes, however a good rule of thumb is 6 inches. Ultimately the determination will be made by the fire official at the time of inspection as to whether or not the installation is too close to an ignition source.*

FIRE FACT 091 – FLAMMABLE LIQUID USE

Gasoline, alcohol, mineral spirits, and solvents are common flammable and combustible liquids used by building owners. Flammable and combustible materials are generally stable when used as directed and may not directly cause a fire while stored or used properly but they will adversely affect the rapid growth of a fire if exposed to one. Results of this condition have overpowered fire suppression systems and directly led to the total destruction of buildings.

Proper storage of these liquids and equipment may be allowed in occupied buildings if the storage meets strict criteria.

Fuel Equipment

Weedeaters, snowblowers, leaf blowers, lawn tractors and mowers shall not be stored, operated, or repaired within a building unless the room is protected as a hazardous room or the building is fully sprinklered and the aggregate fuel capacity stored does not exceed 10 gallons. Flammable or combustible storage is prohibited in boiler rooms and any other rooms with fuel fired equipment.

It is recommended that flammable and combustible liquid and any gasoline-operated equipment are stored outside of the occupied building.

Liquid Storage

Combustible solvents, cleaners, and chemicals should also be stored in a properly separated hazardous room. Liquid storage must be in proper storage containers or safety cans. Quantities are limited to a total of five gallons for operating storage (see NFPA 30, 2008). When exceeding five gallons of storage, these liquids shall be placed in an approved Flammable Storage Cabinet located in a properly separated area.

Flammable liquid storage cabinets

Available on the commercial market and must be listed and labeled for the use. This will typically be done by Underwriter's Laboratories (UL) or a similar organization. The most common type is a double-wall metal cabinet, yellow in color, and labeled with red lettering stating "FLAMMABLE - KEEP FIRE AWAY". The cabinets come in various sizes.

An option which may be considered by facilities with wood working resources is to construct a wooden flammable liquid storage cabinet in accordance with guidance in NFPA 30. The construction requirements are as follows:

- The bottom, sides, and top shall be at least of exterior grade 1-inch plywood.
- All joints shall be rabbeted and shall be fastened in two directions with wood screws.
- If more than one door leaf, there shall be a rabbeted overlap of at least 1 inch.
- Doors shall have a positive latch.
- Hinges shall not lose their holding capacity in a fire.
- A sill or pan capable of holding a 2 inch depth of liquid shall be at the cabinet's bottom.
- The cabinet shall be labeled in 2 inch letters: FLAMMABLE - KEEP FIRE AWAY

Not more than 120 gal. of Class I, Class II, and Class III liquids may be stored in a storage cabinet. Of this total, not more than 60 gal. may be of Class I and Class II liquids, and not more than three such cabinets may be located in a single area. The one exception is that Class I liquids cannot be stored in basements under any circumstances. Storage shall be limited to that required for operation of office equipment, maintenance, demonstration, and laboratory work.

Care must be taken when selecting a location for these storage cabinets. These cabinets must not be placed in rooms that contain any type of heating equipment, such as furnace or boiler rooms, electrical rooms, or any other type of hazardous space or room. They must also be placed so as not to obstruct any exit path or corridor.

Rags that are used in conjunction with flammable and combustible liquids for whatever reason and become contaminated with the particular product should be properly discarded at the end of the work shift. They should not be allowed to accumulate in any work area for any reason.

Classification of Liquids

Requirements for the safe storage and use of flammable and combustible liquids commonly available depend primarily on their fire characteristics, particularly the flash point of the material in question. These liquids are placed in one of three categories: Class I, Class II, or Class III.

Examples of Class I, II, and III liquids:

Class I- gasoline, thinners, some types of mimeograph solutions, floor refinishers

Class II - diesel fuel, some types of solvents

Class III- lubricants, greases

If you have any questions regarding what class a particular product is, consult the Material Safety Data Sheet which is supplied by the manufacturer and sent with the product. All flammable and combustible liquids must be kept in the proper type and size container, either while in use or in storage. Glass, metal, and plastic or polyethylene containers must meet certain design criteria in order to store these types of liquids.

FIRE FACT 092 – OXYGEN USE

Federal Healthcare Oxygen Storage

It is common in healthcare facilities to utilize and store non-flammable medical gases which include compressed Oxygen, Helium, Nitrogen, and other non-combustible gases. The following guidelines are not intended to be all inclusive, but to serve as a general overview of the requirements.

Healthcare facilities are required to comply with NFPA 101, Life Safety Code (2000 Edition) which references NFPA 99, Standard for Healthcare Facilities (1999 Edition). NFPA 99 is where the majority of the use and storage requirements will be found.

Cylinder Storage less than 3,000 ft³

- Located in a room or space of noncombustible or limited-combustible construction
- Doors must be secured
- Cannot be stored with flammable gas, liquid, or vapor
- Separated from combustible materials: 20 ft. – nonsprinklered
- Separated from combustible materials: 5 ft. – sprinklered
- Space must be vented
- Separated from any source of heat
- Electrical fixtures located 5ft above the floor
- Freestanding cylinders shall be properly chained or in a cylinder stand or cart
- Valve protection caps shall be in-place and hand tightened
- Empty cylinders shall be marked to avoid confusion if a full cylinder is needed
- A sign, readable from a distance of 5 ft., shall be on the door:

CAUTION: OXIDIZING GAS(ES) STORED WITHIN: NO SMOKING

Cylinders in use

Up to 300 ft³ of nonflammable medical gas can be located outside of an enclosure at locations open to the corridor such as at a nurses station. However, the cylinders must be secured when not in immediate use. The total allowable amount is per smoke compartment and must include cylinders contained in “crash carts”.

Transfiling of liquid Oxygen

NFPA 99 requires that the transfer of gaseous oxygen from one cylinder to another shall be in accordance with CGA Pamphlet P-2.5, *Transfiling of High Pressure Gaseous Oxygen to Be Used for Respiration*. It is important to note that transfilling cannot occur in patient care areas. Transfilling must take place at a location specifically designated and marked.

- 1-hr fire-resistive construction; and
- Mechanically vented, sprinklered, and has concrete/ceramic tile; and
- Area has signs posted indicating transferring is occurring and no smoking

Oxygen Concentrators

Used to provide oxygen therapy to patients, Oxygen concentrators pose several issues that must be avoided in order to keep patients safe. The most important thing to remember is that even though the patient may not be located in an oxygen tent (or other similar location), that the oxygen concentrator will still create an oxygen-enriched environment in the immediate vicinity of use.

NFPA 99, 8-2.1.2.1 states “In an oxygen-enriched atmosphere, materials that are combustible and flammable in air ignite more easily and burn more vigorously. Materials not normally considered to be combustible may be so in an oxygen-enriched atmosphere.”

In an oxygen-enriched atmosphere the following are and/or could pose an increased hazard:

- Beauty: hair oil, lotions, and hair dryers
- Clothing & linen
- Burning tobacco

- Radiant heaters
- Arching of electrical equipment
- Static electricity